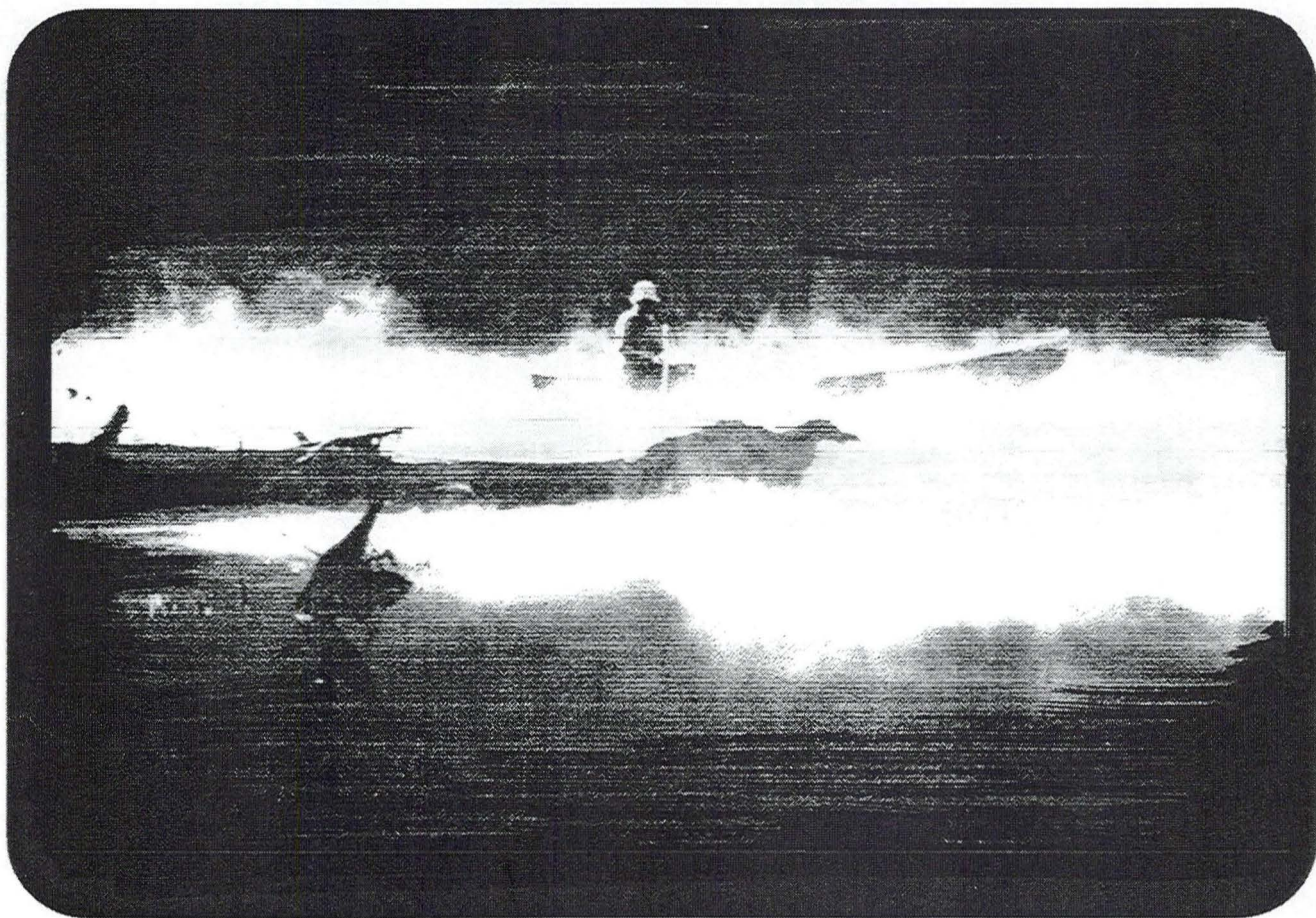


Recreation Action Plan for The Black Creek Ranger District



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CLASS OF 91

This paper was prepared for partial fulfillment of the requirements of the Professional Development for Outdoor Recreation Management Program at Clemson University. It in no way reflects USDA Forest Service policy nor are the opinions expressed those of anyone other than the author.

ABSTRACT GUIDE

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ABSTRACT:

An action plan was developed for the Black Creek Ranger District. Two processes, Limits of Acceptable Change and a Recreation Demand/Use Survey was used to determine issues and concerns and management direction. The Limits of Acceptable Change report will be the prime management guide for the two Wilderness Areas and the Wild and Scenic River. The Recreation Demand/Use Survey explored the recreation resource at a regional level without regard to specific suppliers or political boundaries. The results from this survey determined the type, level, and quantity of recreation to be provided. The data gathered from these two studies produced the elements of the action plan.

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Introduction

There is a unique opportunity on the Black Creek Ranger District to take a proactive stance in molding the way future visitors will use the Forest and the way they will view the management of the Forest. During the last few years there has been a great increase in recreation interest on the Black Creek Ranger District (BCRD). Part of this surge in interest has been caused by the sheer number of people living within a two hour drive. With less leisure time available and increased levels of stress, people are looking for sites which are natural, unspoiled and provide a certain amount of solitude within a short drive from where they live.

To better serve the public and protect the resource this project was chosen to determine the dynamics of current and future use on the BCRD.

The De Soto National Forest, the largest National Forest in Mississippi, contains approximately 501,000 acres and is managed by three separate Ranger Districts: the Chickasawhay, the Biloxi, and the Black Creek. The Black Creek Ranger District is located in the southeastern portion of Mississippi's Gulf Coast physiographic region. In reference to large metropolitan areas, the district is 1/2 hour south of Hattiesburg, Mississippi.; 1/2 hour north of the Mississippi Gulf Coast; 1 hour northwest of Mobile, Alabama; 2 hours northwest of Pensacola,

Florida; and 2 hours east of New Orleans, Louisiana. Within a two hour driving radius, there are over 3 million people.

Current recreation opportunities include the Leaf Wilderness Area (LWA) , the Black Creek Wilderness Area (BCWA), the Black Creek Wild And Scenic River (BCWSR), the Black Creek National Recreation Trail , five boat landings (three of which offer primitive camping), and one low level recreation area. The major recreation activities in order of significance as reported in RIM are:

| ACTIVITIES | RVD'S (THOUSANDS) | % OF TOTAL |
|--------------------|------------------------------|-----------------------|
| 1. Viewing scenery | 90.9 | 31.1 |
| 2. Hunting | 44.9 | 15.4 |
| 3. Camping | 41.7 | 14.3 |
| 4. Canoeing | 17.5 | 5.9 |
| 5. Swimming | 15.2 | 5.2 |
| 6. Hiking | 12.1 | 4.1 |
| 7. Fishing | 11.8 | 4.0 |
| 8. Picnicking | 8. 7 | 3.0 |

(All activities are not listed)

During the past year, recreation use on the BCRD has increased by 17%. New and different activities are being requested: bike trails, ORV trails, horse trails, and wagon trails. With an increase in use there comes an increase in user conflicts. For example: power boaters vs. canoeist and floaters, hunters vs. trail users, fishermen vs. other water users. The potential for degradation of the resource is increasing at a rapid rate while the opportunity for a quality of the recreation experience may be decreasing.

PROJECT OBJECTIVES

The objective of this project is to develop a recreation action plan for the BCRD. Two processes, "Limits of Acceptable Change" and a "Recreation Demand Use Survey" were used to determine the management direction the Forest Service (FS) should take. The Limits of Acceptable Change (LAC) defines desired conditions for the Black Creek Wilderness (BCW), Leaf Wilderness (LW), and the Black Creek Wild and Scenic River (BCWSR). It also dictates actions to maintain or achieve these conditions; identifies human induced change; determines how much change should be allowed, where it will be allowed and the actions needed to control it. LAC concentrates on change in the Wilderness and Wild and Scenic River resources. Since these are the main recreation draws to the BCRD, the results will go a long way in providing answers to many existing and potential problems. LAC will give recreation management direction for the Wilderness areas and the Wild and Scenic River; this report will provide an action plan for the remaining areas.

The Recreation Demand Use Survey looks at the recreation resource from a regional level with no regard to the specific suppliers or to district or state boundaries. It will inventory the types of recreation currently supplied, determine trends, and analyze the information. The results from this

survey indicate the type, level, and quantity of recreation we are currently providing and should be providing in the future. With the data gathered from these two studies, the NF will be able to identify what the recreation action plan should be for the BCRD.

Current Situation

For the information gathered in this project the study area extended out 100 miles from the BCRD. One hundred miles is the average distance indicated by the State Comprehensive Outdoor Recreation Plan (SCORP), that a visitor will travel for the type of recreation found on the BCRD. The area was inventoried to determine the uniqueness of the recreation supplied and the demand for a more developed type of recreation. The following is a partial list of recreation currently being supplied by the Forest Service, the states of Alabama, Mississippi, Louisiana and the Pat Harrison Water Management District.

Developed Recreation - USFS

The BCRD has 4 small developed campgrounds, Ashe Lake, Moody's Landing, Cypress Creek Landing and Janice Landing. The 3 landings were rehabilitated in 1993 and are level 2 campgrounds. Each has sanitary facilities, water and defined camping sites with fire grills, lantern posts and tables. Moody's has 4 sites, Cypress Creek has 16 sites and Janice Landing has 4 sites. The main attractions for all areas are camping, canoeing, fishing, and hiking. These areas are operating at 46%, 31% and 54% of capacity respectively. Ashe Lake is located on a small 8 acre lake with 4 camping sites. The occupancy rate at Ashe runs about 19%. The Forest Service has determined that site deterioration and

degradation of the recreation experience starts to occur at occupancy rates of 40% and higher. At that level of use the sites begin to show signs of erosion and compaction because of the intensity of use. The recreation experience begins to degrade because of over crowding and resource damage.

The Biloxi Ranger District has 2 developed recreation areas. Big Biloxi Recreation Area, which is built near the banks of the Big Biloxi River and is 14 miles from the Gulf Coast, is a level 4 campground. Facilities include a new bathhouse with heated showers , a 25 unit campground with 16 sites with full utility hook-ups, a picnic pavilion, 10 picnic sites, and a sewage disposal station. The main attractions are camping and picnicking, there are no provisions for river access.

Airey Lake Recreation Area is a level 2 development built adjacent to a three acre lake. The camping/picnicking sites are not defined and the restrooms are old "jet-o-matics" but there is drinking water available. The main attractions are camping, fishing and picnicking. Big Biloxi is operating at 33% of capacity and Airey Lake is operating at 45% of capacity.

On the Chickasaway Ranger District, Turkey Fork Recreation Area is the only developed recreation site. Turkey Fork is a level 4 development constructed on a 240 acre reservoir. It has 20 full service camp sites, 12 picnic sites and relatively new flush toilets with heated showers. The main

attractions are camping, swimming, picnicking, and water skiing. Turkey Fork is operating at 15% capacity.

Developed Recreation - State of Mississippi

There are 4 state parks within the study area, all are level 5 developments with most of the amenities found in a city park . All have camping with full utility hook-ups, camp stores, picnicking with pavilions, group areas, and all but one have swimming pools and cabins.

Buccaneer State Park is located 40 miles south of BCRD on the Gulf of Mexico in Waveland. It features a new wavepool with water slides. It also has a wading pool, game room, tennis courts, basketball courts, 3 play areas, gulf fishing, and a 149 unit campground. It is operating at 46% of capacity (Mississippi Dept. of Wildlife, Fisheries, and Parks).

Clarkco State Park is found just south of Meridian and is approximately 85 miles from BCRD. It is situated on a 69 acre lake and has lighted tennis courts, picnic pavilions, 43 camping sites, 15 cabins, a camp store and a visitor center. It is operating at 27% of it's capacity (Mississippi Dept. of Wildlife, Fisheries, and Parks).

Paul B. Johnson State Park is 15 miles south of Hattisburg and is adjacent the BCRD. Located on a 225 acre spring fed lake, it offers a full range of water activities, a visitor center, camp store, fast food service, 16 cabins, 110 camping units and a group area for 130 campers. It is

operating at 24% of it's capacity (Mississippi Dept. of Wildlife, Fisheries, and Parks).

Percy Quinn State Park is only 6 miles south of McComb and approximately 80 miles west of BCRD. Situated on a 700 acre lake it features, full water sports, group camp for 212 campers, 12 lodge rooms, 22 cabin units, a convention center, 161 camp units, a visitor's center and camp store. It is operating at 29% capacity (Mississippi Dept. of Wildlife, Fisheries, and Parks).

Developed Recreation - Pat Harrison Water Management District

There are seven water parks within the study area, they range between a level 3 and level 5 developments with most of them at the level 5. All provide picnicking, pavilions and group areas. Three have water slides and camp stores. All but 2 have cabins, camping with full utility hook-ups and boating opportunities.

One of the larger and more popular parks is Flint Creek Water Park which is located in Wiggins, making it also the closest. It is located on a 600 acre lake and has 21 fully equipped cabins and a full service campground with 131 sites. Water activities include water slides, swimming, fishing, boating, and skiing. It has an occupancy rate of 34% (Pat Harrison Waterway District).

Little Black Creek Water Park is situated on a 600 acre lake in

Lumberton which is 26 miles west of Wiggins. The area does not have water a water slide nor does it allow skiing. Fishing and swimming are the featured water sports. There are 12 fully equipped cabins and the campground has 100 full service camping sites. Though not as popular as Flint Creek , it had an occupancy rate of 30% in 93 (Pat Harrison Waterway District).

Maynor Creek Water Park is located in Waynesboro, which is 70 miles north east of Wiggins. On a 450 acre lake , amenities include 2 water slides, skiing, boating, fishing, 5 cabins and 70 full service camping sites. In 93 it had an occupancy rate of 23% (Pat Harrison Waterway District).

Archusa Creek Water Park is located just outside Quitman on a 450 acre lake. It is located 100 miles north east of Wiggins. Water activities include skiing, swimming, boating, and fishing. There are 4 new cabins and a 69 site full service campground. It has an occupancy rate of 15% (Pat Harrison Waterway District).

Turkey Creek Water Park, located just south of Decatur, provides one of the smaller lakes with a total surface area of only 250 acres and is 125 miles north of Wiggins. Water activities include skiing, swimming, boating, and fishing. With only 22 full service campsites and 3 cabins, it is one of the smaller destination areas. Its use was approximately 14% of capacity in 93 (Pat Harrison Waterway District).

Another small area is Dry Creek Water Park, located 70 miles north west of Wiggins in Mount Olive. It is located on a 150 acre lake which precludes water skiing but allow fishing, swimming and boating. The campground has 28 full service sites but there are no cabins available. The occupancy rate for 93 was 9% (Pat Harrison Waterway District).

Developed Recreation - State of Alabama

There are 2 parks within the study area, Claude D. Kelly State Park, and Gulf State Park. Both are level five type developments and have a full range of recreation amenities including cabins and lodges and both are located approximately 100 miles southeast from Wiggins. Claude D. Kelly State Park has only 5 developed sites and an occupancy rate of 28%. Gulf Shores State Park is Alabama's most popular park because of its prime location on the Gulf of Mexico. It has 468 full service campsites and enjoys an occupancy rate of 62 % (Alabama Division of State Parks).

Developed Recreation - State of Louisiana

Louisiana has two parks in the study area, Fountainebleau State Park and Fairview-Riverside State Park. Both are level 4 developments with the basic amenities. Neither provide cabins, lodges or campstores and both are located in highly urbanized areas. Fountainebleau has 130 full service campsites and is located approximately 60 miles southwest of Wiggins and has an occupancy rate of 47%. Fairview-Riverside State Park is located

approximately 75 miles from Wiggins on the Tchefuncte River in Madisonville. It has 82 site full service campground and an occupancy rate of 32% (Louisiana Office of State Parks).

Developed Recreation - Local and Private

Local and private developed recreation areas was not explored because they are more urbanized, do not have the large acreage, and cater to a different clientele. The few that were contacted did not have good records and were wary of providing the Forest Service with the information.

Dispersed Recreation - USFS

Most of the dispersed use on the BCRD is either oriented around the wild and scenic river, the two wilderness areas or general hunting throughout the district. There are 2 landings, Big Creek and Fairley Bridge, that have designated camping areas associated with them for a total of 5 camp sites and are level 2 developments.

There are 42.5 miles of hiking trails on the BCRD, 41 of those miles compose the Black Creek National Recreation Trail. The district has just installed a .2 mile interpretive trail and is currently working to complete a 22.5 miles all terrain vehicle (ATV) Trail (input from this study was used to locate both).

Hunting and fishing account for two of the most popular outdoor recreation activities in Mississippi. Hunting is the second most popular

recreation activity on the BCRD and viewing scenery is the number one use. Almost two thirds (64.1%) of the state's population fish at least once a year. The average number of days of participation is 36.29 per person. Almost one third (31.55%) of the state's population hunt at least once a year. The average number of days of participation is almost identical to fishing at 36.06 per person (SCORP).

Economic pressures and increased demands are causing the cost of leasing lands for hunting and fishing to become higher and higher. Higher leasing cost will place greater pressure on public lands. This problem is more acute in rural areas that are adjacent to large metropolitan areas (SCORP).

Other than hunting in the general forest area, the remaining major dispersed use occurs in the two wilderness areas or on the wild and scenic river. Black Creek Wilderness and the Leaf Wilderness encompass 5500 acres and are the only wilderness areas within 250 miles of the study area. The Black Creek Wild and Scenic river consists of a corridor that is approximately 21 miles long and varies in width but has an average width of approximately 1/2 mile. It should be noted that the entire length in Forest Service management is managed as if it has a wild and scenic designation. A total of 41 suitable canoeing miles occur on the BCRD. The nearest wild and scenic river is also approximately 250 mile from the study area.

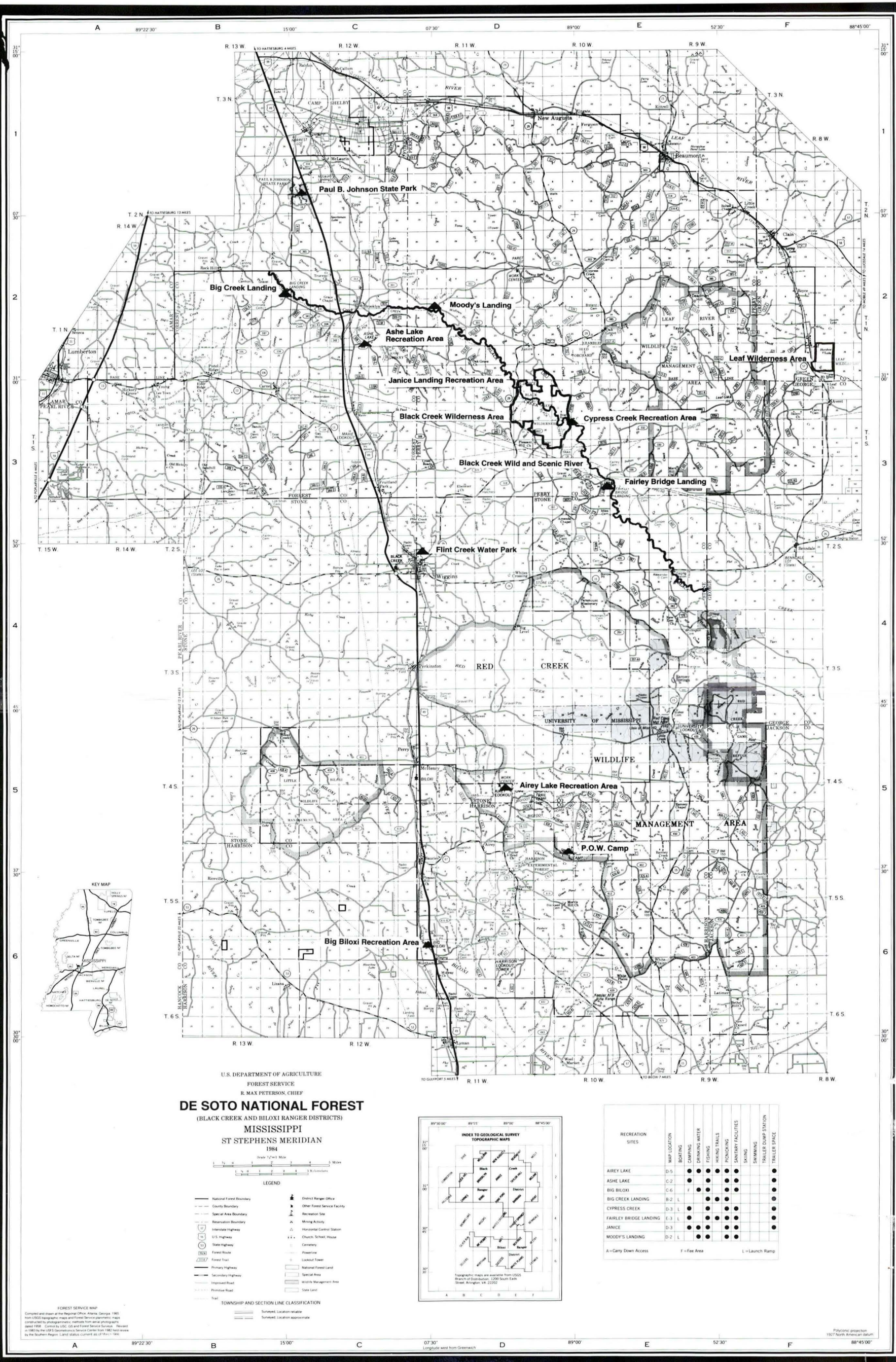
The Biloxi Ranger District has one dispersed recreation area and three trails. The Prisoners Of War Recreation Area is adjacent to a 7 acre lake and has no defined sites, no toilet facilities, and no potable water.

There is a total of 103 miles of trail that offer a full range of experiences. The Tuxachanie National Recreation Trail is designated for foot traffic only and is 22.75 miles long. The Big Foot Horse Trail is a 13 mile trail specifically designed for horseback riding. The remaining trail, the Bethel ATV Trail, is 68.5 miles long.

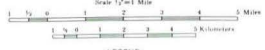
The northern most district of the De Soto N.F., is the Chickasawhay which has 62.8 a total of miles of trail. The Little Tiger ATV Trail composes 36 miles, the Long Leaf Horse trail is 26 miles in length and the remaining .8 mile belongs to the Turkey Fork Hiking Trail.

OCCUPANCY RATES FOR DEVELOPED SITES IN STUDY AREA

| SITE | | % OCCUPANCY |
|-----------------------|----------------------|--------------------|
| U.S. FOREST SERVICE | | |
| | Moody's Landing | 46% |
| | Cypress Creek | 31% |
| | Janice Landing | 54% |
| | Ashe Lake | 19% |
| | Airey Lake | 45% |
| | Big Biloxi | 33% |
| | Turkey Fork | 15% |
| STATE OF MISSISSIPPI | | |
| | Buccaneer | 27% |
| | Paul B. Johnson | 24% |
| | Percy Quinn | 29% |
| PAT HARRISON W. M. D. | | |
| | Flint Creek | 34% |
| | Little Black Creek | 30% |
| | Maynor Creek | 23% |
| | Archusa Creek | 15% |
| | Turkey Creek | 14% |
| | Dry Creek | 9% |
| STATE OF ALABAMA | | |
| | Claude D. Kelly | 28% |
| | Gulf Shores | 62% |
| STATE OF LOUISIANA | | |
| | Fountainebleau | 47% |
| | Fairview - Riverside | 32% |



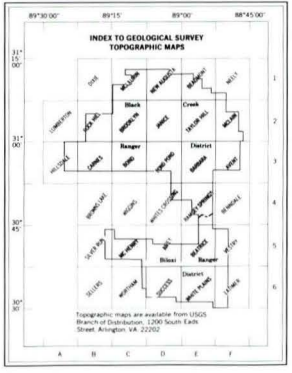
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R. MAX PETERSON, CHIEF
DE SOTO NATIONAL FOREST
(BLACK CREEK AND BILOXI RANGER DISTRICTS)
MISSISSIPPI
ST STEPHENS MERIDIAN
1984



- LEGEND**
- National Forest Boundary
 - County Boundary
 - Special Area Boundary
 - Recreation Boundary
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Forest Road
 - Forest Trail
 - Primary Highway
 - Secondary Highway
 - Improved Road
 - Private Road
 - Trail
 - District Ranger Office
 - Other Forest Service Facility
 - Recreation Site
 - Mining Activity
 - Historical Control Station
 - Church, School, House
 - Cemetery
 - Powerline
 - Lookout Tower
 - National Forest Land
 - Special Area
 - Wildlife Management Area
 - State Land

TOWNSHIP AND SECTION LINE CLASSIFICATION

- Surveyed, Location reliable
- Surveyed, Location approximate



| RECREATION SITES | MAP LOCATION | BATHING | CAMPING | DRINKING WATER | HIKING TRAILS | PICKNICKING | SANITARY FACILITIES | SKIING | TRAILER DUMP STATION | TRAILER SPACE |
|------------------------|--------------|---------|---------|----------------|---------------|-------------|---------------------|--------|----------------------|---------------|
| | | | | | | | | | | |
| AIREY LAKE | D-9 | | | | | | | | | |
| ASHE LAKE | C-2 | | | | | | | | | |
| BIG BILOXI | C-6 | | | | | | | | | |
| BIG CREEK LANDING | B-2 | | | | | | | | | |
| CYPRESS CREEK | D-3 | | | | | | | | | |
| FAIRLEY BRIDGE LANDING | E-3 | | | | | | | | | |
| JANICE | D-3 | | | | | | | | | |
| MOODY'S LANDING | D-2 | | | | | | | | | |

A=Carry Down Access F=Fee Area L=Launch Ramp

FOREST SERVICE MAP
Compiled and drawn at the Regional Office, Atlanta, Georgia, 1985
from USGS topographic maps and Forest Service planimetric maps
constructed by photogrammetric methods from aerial photographs
dated 1958. Control by USGS 03 and Forest Service surveys. Revised
in 1980 by the USGS Geosystems Service Center from 1980 text review
by the Southern Region. Land status current as of March 1985.

Urban Influence

Mississippi's population is becoming more urbanized. Until well into this century, the state was predominantly rural. Now, only 52% of the population reside in rural areas and less than 2.3% earn their living from agriculture.(SCORP)

The major metropolitan areas within the study area are Mobile, Mississippi Gulf Coast, and New Orleans with combined populations of over 2.5 million. Add to that the smaller cities and the outlying areas and the population within the study area jumps to over 3 million. With the recent addition of gaming on the Gulf Coast, the Mississippi Division of Tourism is anticipating a 12% to 15% increase in tourism on the coast. In the summer of 1993 , Gulfport expanded its city limits to within 2 miles of the De Soto National Forest.

Interstates 10 and 59, U.S. 98 and U.S. 49 are the main transportation arteries that serve the De Soto National Forest. All are directly adjacent to the Forest except I-10 and its closest point occurs at an exchange that is 4 miles south of the Forest. These 4 highways provide extremely easy access from the surrounding metropolitan areas to the De Soto National Forest.

Recreation Trends

According to the 1990 SCORP, the top ten preferred activities people in Mississippi would like to do are:

1. Tennis
2. Boating, sailing and water skiing
3. Swimming and diving
4. Golf
5. Baseball and softball
6. Camping and backpacking
7. Hunting and bow hunting
8. Skindiving, scuba and snorkeling
9. Horseback riding
10. Fishing

(Hiking was not mentioned in SCORP because of the difficulty in measuring it.)

Listed below are the needs for various outdoor recreation activities and facilities in the Southern Mississippi Planning Unit as indicated in SCORP.

| <u>ACTIVITIES</u> | <u>NEEDED FACILITIES</u> |
|--------------------------|--------------------------|
| Archery | 5 ranges |
| Baseball, softball | 420 fields |
| Basketball | 75 courts |
| Biking | 201 miles |
| Boating, skiing, sailing | 670 ramps |
| Camping, backpacking | 5,330 sites |
| Canoeing, kayaking... | 9,907 launches |
| Fishing | 15,345 acres |
| Playing outdoor games | 100 acres |
| Horseback riding | 355 mi. trail |
| OHV, ATV, dirt biking | 4,621 mi. trail |
| Picnicking | 10,543 tables |
| Playgrounds | 364 playgrounds |
| Soccer | 23 fields |
| Swimming, diving | 4,725.980 sq. ft. |
| Tennis | 1,373 courts |

Source: SCORP 1990

It must be noted that when the 1990 SCORP was done there was no knowledge that gaming would occur on the Gulf Coast. The numbers of needed facilities indicated will probably increase as the population increases .

Introduction to The Recreation Demand/Use Survey

During the past few years the public's view of recreation and specifically recreation on public lands has changed drastically. The National Forests in Mississippi (NFsMs) chose to use a market analysis conducted by an independent party to determine the public's wants, needs, interests, and degree of satisfaction. The Forest enlisted the services of Dr. Kim Beason and graduate students in the Exercise Science and Leisure Management program at the University of Mississippi (UM) to conduct the survey. The NFsMs and UM entered into a cost share agreement, whereby the university would independently conduct the study and the NFsMs would contribute \$1500.00.

The university collected information by structured formal interviews, mail survey questionnaires, document analysis, on-site evaluation, and phone interviews. Questionnaires were sent out and interviews were conducted with Black Creek Forest visitors, area residents, out-of-state tourists, and members of concerned special interest groups. The area of concentration was determined by SCORP. It indicated that visitors would travel approximately one hundred miles, for the type of recreation provided on the BCRD. For more detailed information please refer to appendix, "Black Creek Marketing and LAC Study".

Marketing Analysis Objectives

1. Assess regional natural resource-based recreation opportunities to determine similarity of services and clientele.
2. Determine current visitor demographics for the Black Creek Ranger District.
3. Determine current interest and satisfaction of visitors.
4. Formulate partial solutions to strategic planning and future marketing efforts.

In other words, the goal of the study was to obtain as much information as needed within a hundred mile radius to determine the forest's niche in recreation, current level of satisfaction with services being provided, and future planning and marketing needs.

Study Approach

The University began their task of developing questionnaires, interview procedures and a data base of interested and concerned parties. The mail-out questionnaires were sent to local residents, hunters and fishermen, special interest groups such as the Sierra Club, and groups associated with

the timber industry. These were mailed not only to residents of Mississippi but to Texas, Arkansas, Louisiana, Alabama, and Florida. Structured interviews were conducted at Janice Landing, Cypress Creek Landing, Moody's Landing, Leaf Wilderness Area, Fairley Bridge Landing and the Black Creek Trail. The questionnaires and interviews were designed to gain demographic information, interest in current and desired future services, ethical orientations and overall perceptions of the BCRD SCORP plans from adjoining states were reviewed to determine duplication of services and trends in recreation. Reports regarding campground usage , promotional efforts to attract tourism and visitors to natural resource areas in southern Mississippi, and demographic information were reviewed. Please see the Beason's study in the appendix for additional information on the demand use survey.

Demographic Characteristics

The purpose of this section is to identify the users participating in recreational activities on the Black Creek Ranger District.

1. 91% of the respondents were male.
2. Average age was between 30 and 50 years old.
3. 75% were from traditional family groups.
4. \$50,000 was the median income level.

5. 72% visited with 1-2 people in their party.
6. 72% were accompanied by children.
7. 41% visited the area primarily in the spring/summer.
8. 37% visited the area primarily in the summer/fall.
9. 3% visited the area primarily in the winter only.
10. Camping and hunting were the primary uses during summer/fall
11. Fishing, swimming, canoeing, sightseeing, and picnicking were
the primary uses during spring/summer.
12. 67% of the respondents were state residents; of those 11% lived
within 20 miles of the district.
13. 78% of the out-of-state respondents were from Louisiana.
14. 35% had been visiting the area for less than 2 years while 27%
indicated they had been visiting the area for over 15 years.
15. Average length of stay for hunters and fishermen was at least 1
night.

Dr. Kim Beason defines *primary activity* as "the activity in which the participant spends the greatest amount of time planning for and engaging in. Primary activity does not necessarily indicate the primary reason for participating in a specific activity." The following were indicated as primary activities:

32% camping

17% hunting

16% canoeing

14% hiking

12% fishing

Competition

Research was made to determine the market competition for the type of natural resource based recreation that is found on the Black Creek Ranger District. Reviews were made of private suppliers as well as public, in-state as well as out-of-state. Comparisons were made between the recreation experiences provided on the Black Creek Ranger District and the other suppliers.

It was found that competition in neighboring states was minimal and that many visitors are coming from Louisiana and Arkansas because of the uniqueness of the recreational experience. Louisiana's primary goal with their parks and recreation areas is creation of wetland habitat in support of the heavy pressure for additional hunting areas. Arkansas resource based recreation is found in the West Central portion of the state and, because of distance poses no strong competition.

Location seems to be one of Black Creek Ranger District's strong points. Pensacola, Mobile, New Orleans, and Jackson all fall within a 100 mile radius.

Very little dissatisfaction was found with the resource based recreational opportunities by the current BCRD visitors. Comments were made on the beauty and quality of the recreational opportunities in the BCRD as opposed to that found in their own state.

There are several in-state recreation suppliers that compete with the BCRD such as Paul Johnson State Park, Flint Creek Water Park, and privately owned campgrounds on the Gulf Coast. They all offer similar types of recreation services but these services have a different experience level. While all of the recreational opportunities found on the BCRD fall into the more primitive spectrum (hunting fishing, hiking, camping, and canoeing), the recreation opportunities provided by state and private tend to fall into the more urban spectrum (water slides, water skiing, RV camping, and overnight stays in cabins). BCRD would have to build a very urban campground to be in competition with these areas. This would be expensive, would not be filling a strong need, and would result in lower satisfaction levels by the current visitors.

The combination of the Black Creek Wild and Scenic River, Black Creek Wilderness Area, Leaf Wilderness Area, and the Black Creek National Recreation Trail insures a unique recreational experience that is not to be found in the south central region of the southeastern United States.

Demand for Outdoor Recreation Opportunities

The university's survey indicated 7 areas exist where a recreational need can be met or improved upon. All of these reflect the current objectives and goals of the BCRD recreation program.

1. Provide more family-oriented recreational opportunities.
2. Increase the fishing and hunting opportunities and orient them to the individual user rather than clubs or groups.
3. Provide access to the primitive and wilderness areas for the physically challenged.
4. Provide recreation opportunities for the elderly. Specifically, accommodations for their RV's. In limited amounts, this would not compete with the more developed areas nor would it degrade the primitive nature of the areas.
5. Provide the opportunity for adventure bicycling. This activity would be easily adapted to the existing trails on the BCRD.
6. Provide ATV and ORV trails. The private sector has not provided for this activity and there appears to be quite a demand for it.
(Careful consideration should be used in locating this activity for it is not compatible with the current users or activities other than hunters and hunting.)
7. Provide interpretation and environmental education programs that

would focus on the resources and management activities that occur on the BCRD.

Competition Conclusions

With consideration of the 2 wilderness areas, the wild and scenic river, and the national recreation trail, it was determined that the BCRD provides a unique recreation experience not found in the surrounding area. Dr. Beason's survey determined the following list of concerns and recommendations for the present recreation program:

1. Upgrade the toilet facilities, increase insect control, reduce the military noise, increase law enforcement, make water more readily available, and decrease erosion along the stream banks.
2. Increase promotion of the area by targeting the urban population centers, existing commercial enterprises and surrounding campgrounds.
3. Develop a regional marketing group to promote the entire area. This would include representatives from all the recreation suppliers in the study area.

It was also found that the specialized recreational activities of the BCRD attracted a special type of user. These users possess certain traits:

1. Some have strong conservation and preservation ethic. They are very satisfied with primitive camping, tent camping, limited access, no motorized vehicles or horses, and increased management controls on the river and wilderness. Others have more of a conservation and commercialization ethic. These visitors focus more on the services and

facilities provided by the managing agency.

2. There is an equal balance of out-of-state and local users. This balance was only found at the Flint Creek Water Park but not at any other recreation site in the study area. This should be remembered when promoting the area, because there will be potential for increased conflict with local residents as the amount of use increases through regional promotion strategies. The current use is considered low to moderate as compared with similar attractions across the nation.

3. The current visitors do not perceive the BCRD as being in conflict with other natural resource areas and they are happy with the experience and indicate that little change is needed.

Participation/Satisfaction Summary

The following information represents the degree of interest, participation, and satisfaction with the programs/services offered or likely to be of interest on the BCRD. All information and results are based upon data gathered during the study and are representative of the population currently recreating on the BCRD.

Very High Interest - High Satisfaction

The following programs/services received high participation and high satisfaction responses. They are primary activity areas and should continue to receive priority management and marketing efforts.

1. Canoeing is the number one recreation activity participated in while on the BCRD. Satisfaction is very high. The district should continue current management practices including marketing but should be sensitive to over use and over development. (This conflicts with the NFsMs RIM data, but this was the results of Dr. Kim Beason Recreation Demand/Use Survey.)

2. Sightseeing on foot is a primary activity with a high satisfaction rating. The district should incorporate interpretive programs that point out areas of interest associated with nature and beauty.

3. Tent camping received the highest level of camping participation and had a high satisfaction level. The district should continue to promote tent camping by developing more areas and allowing access into the remote areas.

4. Another primary activity is hiking. It has a strong correlation between hunting, fishing, and canoeing and has a high satisfaction rating. The district should not allow horse or ATV trails in the wilderness or the scenic river corridor.

5. General sightseeing fell into high participation and high satisfaction and recommendation is to continue current management practices.

High Interest - High Satisfaction

The following activities received high interest and high participation responses. They are currently at an acceptable satisfaction level. Attention

should be given to maintain current management practices and marketing efforts for these activities. These activities are:

1. Boating other than canoeing
2. Trail use by couples
3. Trail use by groups
4. General hunting
5. General camping
6. General picnicking
7. Family picnicking
8. Swimming
9. Fishing from boats and canoes
10. General fishing
11. Deer hunting
12. Sightseeing using a vehicle
13. Small game hunting

Low Interest - Low Satisfaction

The following programs/services received low participation and low satisfaction responses. These activities should be minimized to prevent lower participation and satisfaction to others for they are in opposition to the unique ethical attitudes of the BCRD visitors. These activities are:

1. Horse trails to be established

2. Boating using motors greater than 10 hp.
3. ATV/ORV trails to be established
4. Corporate picnics or areas for this
5. Dock fishing opportunities
6. Increased horse traffic
7. Increased use of ATV/ORV on the BCRD
8. Lifeguards on duty at the boat landings
9. Increase in noise levels of the ATV/ORV on the BCRD
10. Any general horse use
11. Absolutely no increase in ATV/ORV traffic on the BCRD

Low Interest - High Satisfaction

These programs/services received low participation and high satisfaction responses. Current management practices should not be altered. These activities include:

1. R.V. camping opportunities
2. Pavilion picnicking opportunities
3. Boating access and opportunities for boats with motors less than 10 hp.
4. Camper (towed, pop-up) opportunities

High Interest - Low Satisfaction

These programs/services should receive the majority of the NFsMs

management and marketing effort. These activities are currently below par and not satisfactory to the BCRD visitor. These activities are:

1. Turkey hunting. The district should start actively managing for turkey.
2. Bank fishing. An effort should be made to develop trails to riparian areas specifically for fishing. Develop fishing spots at existing creek access points.
3. Expanded primitive camping opportunities. Visitors indicate that they do not want highly developed areas but areas that have drinking water and facilities that are accessible.

Introduction to The Limits of Acceptable Change

Process

The Limits Of Acceptable Change (LAC) process is a nine step framework that allows for establishing acceptable and appropriate resource and social conditions. LAC was established in response to a need for coping with increasing demands on public lands in a visible, logical fashion. LAC also represents a reformulation of the recreational carrying capacity concept with the primary emphasis now on the desired conditions in the area rather than on how much use an area can tolerate. Due to the cost and complexity, LAC was not used for the entire district but was used for the two Wilderness Areas and the Wild and Scenic River. This report will summarize the nine individual steps but will not delve into the specific findings, results of each step, nor the recreation management recommendations. For more detailed information please refer to reference B - LAC Black Creek Ranger District

Step 1: Identification Of Issues And Concerns

Step One identifies those public and managerial issues and concerns that relate to (1) distinctive features and characteristics of the wilderness and scenic river areas and (2) the relationship of the individual areas to other units of the wilderness or the wild and scenic river systems and to

nonwilderness/ scenic river areas offering primitive recreation opportunities. General management direction for every wilderness and scenic river is based on the Wilderness and Wild and Scenic River acts, Forest Plan Standards and Guidelines, related legal guidelines, and organizational policy. This step builds on that foundation, refining management direction to deal with the specific situation in each area.

Step 2: Opportunity Class Definitions And Descriptions

Step two defines a series of opportunity classes for the two Wilderness Areas and the Wild and Scenic River. An opportunity class defines a qualitative description of the kinds of resources and social conditions acceptable for that class and describes the type of management activities considered appropriately. Opportunity classes are not on-the-ground allocations, nor are they derived from specific conditions found within the areas. They are, instead, hypothetical descriptions of the range of conditions that managers consider likely to be maintained or restored in each area. The opportunity class definition provides rationale against which the appropriateness of indicators (Step 3), standards (Step 5), and management actions (Step 7) can be tested.

Five opportunity classes were determined necessary ; Two for the BCWA, two for the LWA, and one for the BCWSR.

Step 3: Select Indicators Of Resource and Social Conditions

The two previous steps provided generalized descriptions of the desired condition. This step identifies variables to guide the rest of the process. These specific variables can be used to indicate overall conditions. Indicators will form the basis for Inventory Needs (Step 4) and development of Standards (Step 5) for identifying where Management Actions are needed (Step 7). This step will assist the manager in defining desired conditions and assessing the effectiveness of various management practices.

Step 4: Inventory Existing Resource And Social Conditions

The inventory is guided by the indicators selected in Step 3. The indicators specify the variables inventoried; they also identify the unit of analysis.

To be of value, the inventory must be conducted in an objective and systematic manner; otherwise, the data will have limited value. Inventory data provide managers with the range of conditions of the indicators. This information can be recorded directly onto base maps, which will provide easy analysis of spatial patterns. This will be important in Step 6 when managers consider different allocations of opportunity classes across the area.

Step 5: Specify Standards for Resource and Social Indicators For Each Opportunity Class.

In Step 5, the task is to assign quantitative or highly specific measures to the indicators. This greater specificity is obtained by establishing standards - measurable aspects of the indicators defined in step 3. These standards provide a base whereby a particular condition can be judged as acceptable or not. Using data collected in Step 4, it is possible to specify standards that describe the acceptable and appropriate standard for each indicator in each opportunity class. Specifying standards is a subjective process; however, the process is logical, traceable, and subject to public review.

Step 6: Identify Alternative Opportunity Class Allocations Reflecting Area Issues And Concerns And Existing Resource And Social Conditions

The objective in Step 6 is to decide what resource and social conditions are to be maintained or achieved in specific areas of the wilderness areas and wild and scenic rivers. This is a prescriptive step, and input from both managers and the public should be used to make these decisions. Step 6 initially involves an analysis of the inventory data collected in Step 4, along with the area issues and concerns identified in Step 1. These issues and concerns do not prescribe what should be done.

They must be balanced against the realities of what exists, as revealed by the maps of existing condition for each indicator, and balanced with what is possible in terms of agency resources. The final results of this step are maps of alternative opportunity classes, reflecting both area issue and concerns and existing resource and social conditions.

Step 7: Identify Management Actions for Each Alternative

After alternative packages of opportunity classes have been formulated, managers then identify the differences, if any, that exist between current conditions inventoried in Step 4 and the standards identified in Step 5. This will determine where problems exist and what management actions are needed. The managers then consider what actions will be instituted to achieve the conditions specified by each alternative and evaluate the cost and appropriateness of implementing these actions.

Step 8: Evaluation and Selection of a Preferred Alternative

The selection of a preferred alternative reflects the evaluation of both managers and concerned citizens. There is no simple formula regarding how such a decision is made. In the analysis of alternatives, a variety of costs are considered. These include the financial cost, information cost, opportunity costs associated with not carrying out a proposed action, and other resource and social costs. These latter costs

are difficult to quantify, particularly in monetary terms, but they are extremely important.

Step 9: Implementation Actions and Monitor Conditions

With the selection of an alternative and its associated management program, the program is implemented and its performance assessed. Monitoring provides systematic feedback on how well management actions are working and identifies trends that require new actions. This is not a new step. Rather, it consists of periodically reassessing existing conditions (the inventory process in step 4) and describing the differences between those conditions and the standards.

Merge The Information

This step will merge the issues and concerns identified in the Demand Use Survey and the Limits of Acceptable Change Survey. There are some issues that relate to the study area of LAC. Those items have been identified and are part of the LAC management plan and on-going monitoring for that area. Please refer to that document for specific information. Overlapping issues, specifically those relating to the general forest area will be addressed here.

Issues and Concerns

1. Provide more family-oriented recreational opportunities.
2. Increase fishing opportunities.
3. Provide access to the primitive and wilderness areas for the physically challenged.
4. Provide recreation opportunities for the elderly. Specifically, provide accommodations for their RVs.
5. Provide the opportunity for adventure bicycling.
6. Provide interpretation and environmental education programs that focus on the resources and management activities that occur on the BCRD.
7. Upgrade the toilet facilities.

8. Increase law enforcement.
9. Make potable water more available.
10. Decrease erosion along the bank of the Black Creek.
11. Increase promotion of the area.
12. Increase hunting opportunities with special emphasis on turkey hunting.
13. Develop fishing trails.

Action Plan

The Recreation Demand/Use Study was completed in FY92 and the Limits of Acceptable Change Report was completed in FY93. Some actions and recommendations have already been implemented. Listed below are the 13 recommendations that make up the Action Plan. Specific dates will be set by the BCRD and the approved by the Forest Supervisor.

1. Provide more family oriented recreational opportunities.

Both Airey Lake Recreation Area on the Biloxi Ranger District and Ashe Lake Recreation Area on the Black Creek Ranger District will be placed in the Capital Investment Program(CIP) for FY97 as the NF in Ms. top priority. These areas have been on the CIP priority list for several years and will be at the top in FY97. Both developments will fill a void by supplying additional camping sites for the area. The existing sites at Cypress Creek Recreation Area, Janice Landing Recreation Area, and Moody's Landing were rehabilitated in FY93. Five interpretive trails are being constructed in FY94 on the Biloxi and Black Creek Ranger Districts.

2. Increase the fishing opportunities.

The district has improved fishing access at several areas and has an aggressive ongoing habitat improvement program as indicated in the work completed below.

Fishing along Black Creek:

1. Improved access with the new parking lot and stabilization done at Moody's Landing (FY94).
2. Reconstruction of the old walk-down ramp at Janice Landing for increased accessibility for fishing.
3. Improved habitat from the Annual Clean-up/ Trash-A-Thon event Started in FY 92. (This is an annual event.)
4. Short fishing trails will be developed at Cypress Creek Landing, Moody's Landing, Janice Landing, and Fairley Bridge Landing.

Fishing on the rest of the district:

1. The district is currently in partnership with the University of Southern Mississippi to do a study along Beaver Dam Creek that will lead to the improvement of fishing opportunities in that area.
2. During FY 93, an accessible fishing pier and parking area was constructed at Ashe Lake.
3. Habitat improvement has been done at Ashe Lake, Gator Pond and Leaf Pond. In concert with this, an annual fertilization program is also improving the resource.

The district will continue to monitor the resource through on going partnerships and established Forest Service fisheries programs and make improvements when indicated.

3. Provide access to the primitive and wilderness areas for the physically challenged.

In FY 93 the district installed an accessible interpretive trail adjacent to the BC Trail. There are four more interpretive trails that will be developed on the Biloxi and Black Creek Ranger Districts during FY94 that will be accessible. Where feasible, future trails will be designed to accommodate highest degree of accessibility within the designated ROS class and the desired experience level. For example: the trails in the wilderness areas will not be paved but will allow some degree of accessibility without diminishing the wilderness experience.

4. Provide recreation opportunities for the elderly. Specifically, accommodations for their RVs.

As stated in Action #1, Airey Lake and Ashe Lake should be upgraded. The upgrade will include campsites with accommodations for RVs. Existing camping areas along the Black Creek were rehabilitated in FY93 and are suitable for RV use. LAC indicated that RV use should not be encouraged in these areas so full hook-ups are not provided.

5. Provide the opportunity for adventure bicycling.

There are no bike trails on the De Soto NF but there is an increasing demand for them. SCORP indicates that in 1995 there will be a deficit of 210 miles of bike trails in the southern planning unit. In FY95 all three

districts will seek partners and, where feasible, either convert existing trails for bike use or construct new trails where appropriate.

6. Provide interpretation and environmental education programs

During FY91, the NFsMs developed an Interpretive Master Plan for the Forest. The plan is very comprehensive and addresses numerous future projects for the De Soto NF. In the past, funding has been a problem but new funding for interpretation is being provided by Ecosystem Management (EM). Ten percent of EM's annual budget is allocated for interpretation. This will enable the NFsMs to implement some of the proposed projects.

The following projects have been completed on the BCRD:

1. Black Creek Recreational Opportunities Video -FY92
2. Black Creek Recreational Opportunities Display -FY92
3. General Jackson Interpretive Trail -FY93
4. Interpretive Float Trips by private enterprise -FY94

The following projects are proposed for the BCRD:

1. New brochures for each significant recreation opportunity
2. Leaf River Wildlife Management Area Interpretive Site
3. Ashe Nursery Interpretive Trail
4. CCC Camp Interpretive Site
5. Black Creek Wilderness Area Interpretive Site

6. Black Creek Wild and Scenic River Interpretive Site

7. Upgrade the toilet facilities.

All pit toilets will be replaced with accessible "Jet-o-matic" type flush toilets by the end of FY95. All others will be evaluated as to their condition and replaced with accessible Jet-o-matic flush toilets on an as needed basis. Where water is available, and flooding is not a problem, toilets will be upgraded to water flush units.

8. Increase law enforcement.

The law enforcement program in Mississippi has grown from less than \$150,000 annual budget in FY92 to over \$500,000 in FY94 which is over 300% increase. Recreation provides 38% of the FY94 law enforcement budget; indicating that the Forest is providing three times the protection it was two years ago.

The BCRD is proposing to charge fees at Cypress Creek Recreation Area and Janice Landing, when this occurs additional funding will provide for additional law enforcement.

9. Make potable water more available.

In FY92 water was supplied to Cypress Creek Recreation Area. The district should explore possibilities for providing water to Fairly Bridge Landing. When water is provided at Fairley Bridge Landing, four of the five landings will then have water.

10. Decrease erosion along the Black Creek.

During FY93 the district and the Soil Conservation Service stabilized a 70 foot section of bank at Cypress Creek Recreation Area. The boat ramp and bridge at Janice Landing was also stabilized. Work will continue through this partnership on an as-needed basis.

11. Increase promotion of the area.

The District has a good relationship with local newspapers in Wiggins, Hattiesburg, New Orleans, and Baton Rouge. Articles should continue to promote the area although more effort should be directed toward the Mobile area. Brochures should be placed in the Welcome Centers at the Alabama and Louisiana state boundaries, and the Mississippi's Central Visitor Information Center in Ocean Springs. A family of brochures is being developed for the significant recreation attractions in the NFsMs and should be ready for FY95.

12. Increase hunting opportunities with special emphasis on turkey hunting

The District has several annual programs that encourage the increase in wildlife population. Listed below are some of those projects:

1. Prescribe burn 40,000 acres annually, this is the largest burning program in Region 8 and possibly the country. In addition, the District has increased it's growing season burning to 5,000 acres. This is of

tremendous benefit to turkey and quail habitat.

2. There are numerous road closures in the Leaf Wildlife Management Area and the BCWSR corridor. This is done specifically to benefit turkeys and will increase walk-in turkey hunting opportunities.

3. The District has also entered into an agreement with Quail Unlimited to add 100 acres of growing season burns and 50 acres of seeding to their program.

Listed below are recommendations for projects the district to explore in the future:

1. Analyze the Leaf River Wildlife Management Area for an additional 2,000 to 4,000 acre quail management area.

2. Enter into an agreement with the National Wild Turkey Federation to increase turkey habitat.

3. Interpret FS efforts to increase hunting opportunities on the BCRD and what the visitors can do to help.

13. Develop fishing trails.

Short fishing trails will be developed at all developed sites with fishing opportunities. These should be no more than 1/2 mile in length and comply with accessibility standards. Structures will be kept to a minimum.

Conclusion

"This is not the end. This is not the beginning of the end. This is the end of the beginning "

author unknown

This exercise revealed much information that was unknown to the Forest. The Forest now has a good base for recreation planning and a general idea of what the visitor wants. There are new concerns that arise from this report, all of which need attention.

The gaming industry's incredible growth is playing havoc with regional planning agencies in the southern portion of the state. When inquired about projected growth, the planners didn't have a clue as to what it currently was or where it was going. The forest should stay in contact with the various planning agencies for latest information.

It was quite a shock to find that in a state where the mean income is \$14,000 that the mean income level of our visitors is \$50,000. It's not clear what can be derived from that information but it was a shock.

The information gathered in this report will be used in the Forest Land Management Plan. It will provide all the information needed for the desired future condition on the BCRD. It also indicates the need for this type of

study to be done on all of the districts on the NFsMs.

The Black Creek Ranger District has a number of opportunities to improve it's recreation program. With the district's and the forest's commitment to excellence they will have no problems implementing the Action Plan and will have a stronger program in the future.

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APPENDIX

*Black Creek Ranger District
Marketing and LAC Study*

Completed By:

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University of Mississippi*

August 31, 1992

Regional Marketing Evaluation of the Black Creek
National Forest Ranger District of Mississippi

Conducted by:

Dr. Kim R. Beason, Assistant Professor
University of Mississippi

Fall-Spring-Summer, 1991-1992

Submitted:

September 1, 1992

Introduction

Introduction

A. Background and Intent

Drastic changes in the perceptions of the American public concerning their recreational opportunities in our nations natural resources has prompted the U.S. Forest Service to pursue through market analysis their wants, needs, interests, and rates of satisfaction. Pertinent information gained from market analysis may be incorporated into promotional strategies, strategic planning, and infra/suprastructure improvement. Importantly, findings may be used to "map" a course for improved public-private cooperation and partnership formation resulting in solving of previously indivisible problems and weathering of turbulent economic times.

This report is designed to give insights into customer interest/satisfaction, competition, and target segment demographics concerning the USFS Black Creek Ranger District in southern Mississippi. Data collection and analysis was funded through a cost-share grant between the U.S. Forest Service and Dr. Kim R. Beason and graduate students in the Exercise Science and Leisure Management program at the University of Mississippi. The USFS contributed \$1500,00 toward the completion of this report. The funding period included Fall 1991 to August 31, 1992.

Data was collected by structured formal interview, mail survey questionnaire, document analysis, on-site evaluation, and

phone interview. Subjects included Black Creek Forest visitors, area residents, out-of-state tourists, and members of concerned specialty groups; i.e., Sierra Club. Data gathered from the foregoing individuals was within strict accordance of U.S. Forest Service cost-share agreement guidelines, University of Mississippi's Internal Review Board (IRB) policy, and research ethics.

This report presents the findings of the study.

B. Marketing Analysis Objectives

The analysis objectives for this effort have been:

- ... To assess regional natural resource based recreation opportunities so as to determine similarity of services and clientele.
- ... To determine current visitor demographics for the Black Creek Ranger District.
- ... To determine current interest/satisfaction of visitors.
- ... To formulate partial solutions to strategic planning and future marketing efforts.

In sum, the goal is to provide a substantial resource of information on competitive natural resource based areas within a 100 mile radius of the Black Creek Ranger district to be used for future planning and promotion efforts by the U. S Forest Service.

C. What Was Done

Beginning November 1991, a comprehensive study was begun to gather data destined to be interpreted into practical solutions to the foregoing objectives. Returned survey questionnaires, completed personal interviews, and document reviews provided a database representative of Black Creek Ranger District visitors and area residents.

Questionnaires were mailed to hunters and fishermen, timber businessmen, special interest groups, and local residents. The questionnaires were mailed to subjects in several states including Louisiana, Alabama, Texas, Florida, and Arkansas. A large return was noted from Louisiana. Five hundred questionnaires were mailed and 324 were returned. Of those returned 246 were deemed valuable variable indicators. The return rate was 65% and with usable returns at 49%.

The questionnaires were designed to gather demographic information, interest in current and possible future services, satisfaction of current and possible future services, ethical orientations, and overall perceptions of the Black Creek District. A seven point likert-type scale was employed with a separate category given for those wishing not to respond to a question.

Also, personal interviews were conducted November 1991 through June 1992. A trained interviewer used a structured questionnaire to gather data from on-site visitors. One-hundred and thirty-four (134) individuals participating in a variety of

natural resource based recreation activities were interviewed. Concurrently, a taped interview was conducted on-site by the trained interviewer with consenting subjects. Open-ended questions regarding current USFS management directives and possible solutions to problems were asked. Effort was made by the interviewer to solicit comprehensive responses.

Recreational areas surveyed included Janice Landing, Moody's Landing, Cypress Creek, Highway 29 Parking Lot, Fairley Bridge landing, Leaf Wilderness Area, and the Black Creek Trail. Fourteen survey days were conducted at the foregoing areas. Interviews were conducted at various times and locations to insure a representative collection of data.

Several documents were reviewed to determine marketing objectives. State Comprehensive Outdoor Recreation Plans (SCORP's) were obtained from surrounding states to determine similar recreational sites within a 100 mile radius of the Black Creek Ranger District. Simmons Market Analysis was reviewed to determine demographical information. In addition, current marketing research efforts and Limits of Acceptable change research projects were scrutinized.

Finally, Mississippi state and federal agency reports provided timely information regarding economic and promotional efforts currently implemented to attract tourism and visitors to natural resource areas in southern Mississippi. Recent economic impact studies and campground usage reports were obtained from the U.S. Army Corps of Engineers and Waterway Districts. State

Park information was gathered from the Mississippi Department of Parks, Wildlife, and Fisheries.

A copy of the questionnaires used in this study may be found in the Appendices of this report.

Highlights of the Findings: A Summary

Highlights of the Findings:

A Management Summary

The Black Creek District Ranger District (BCRD) may be considered a tourist destination point for purposes of marketing and strategic recreation area planning by the USFS. In-state and out-of-state visitation frequently occurs with a large percentage of visitors traveling more than 100 miles to visit the BCRD. Repeat visitation to the BCRD was high among those surveyed who had visited the District in the past. These factors indicate BCRD as a tourist destination point. Primary recreational activity focuses on the Wild and Scenic Riverway.

Local residents participate heavily in the recreational opportunities offered in the BCRD. There were extremely large numbers of local residents involved in recreation in the BCRD entering from accesses other than formally designated USFS accesses. The study was unable to determine these exact entry points, however, surveyed visitors indicated that there were more visitors "in them woods" than were supported by vehicles at access areas.

In an effort to assess customer interests and satisfaction rates, several data sources were utilized. Mailed questionnaires, personal interview, qualitative interview, and participation counts were analyzed to determine usage, wants and desires, and possible future management directions. Overall satisfaction with current USFS efforts by visitors was high,

however, several programs/services were determined not satisfying.

Interest rates were highest for recreation occurring on or immediately adjacent to the Wild and Scenic River. Combined interest/satisfaction scores reveal several programs or services which should be improved, several which should be heavily controlled, some which are presently serving few individuals or special interest groups, and areas or services which receive high interest and satisfaction indicating "happy campers".

however, several programs/services were determined not satisfying.

Interest rates were highest for recreation occurring on or immediately adjacent to the Wild and Scenic River. Combined interest/satisfaction scores reveal several programs or services which should be improved, several which should be heavily controlled, some which are presently serving few individuals or special interest groups, and areas or services which receive high interest and satisfaction indicating "happy campers".

The Findings in Detail

Introduction

The purposes of this chapter are threefold. First, to identify and describe individuals participating in recreational opportunities in the Black Creek Ranger District. Second, to compare Mississippi's natural resource recreation areas to states adjacent to Mississippi. Also, to determine in-state recreational opportunities offered by various state and federal agencies considered as competitors for the BCRD for visitation. Third, to determine visitor interests and satisfaction levels. In so doing, we will look at:

- ... Demographic characteristics
- ... Competition
- ... Interest/satisfaction correlations

A. Demographic Characteristics

Subjects responding to the survey were primarily male (91%). Subjects had previously spent recreational time in natural resource based recreation opportunities in the BCRD (90%). The average age of those subjects participating in the surveys were thirty to fifty years old (81%). The majority (75%) indicated that they were part of traditional family groups. The average median income level was approximately \$50,000. Subjects visiting the BCRD most often traveled with 1 - 4 individuals (72%) in their party and were most often (72%) accompanied by children.

Subjects indicated they participated in recreational

activities primarily during the spring/summer months (41%) or the summer/fall months (37%). Extremely little use was indicated during the winter only months by subjects responding to the survey (3%). Camping and hunting were primary recreational activities during the fall and spring. Fishing, swimming, canoeing, sightseeing, and picnicking were primary recreational activities in the Spring and summer months.

Although the majority of respondents were in-state a significant number (33%) were from out-of-state. Only 11% of those surveyed lived within twenty miles of the BCRD. The majority of subjects using the BCRD came from 21 - 100 miles and were in-state (66%). The majority of out-of-state respondents were from Louisiana (78%).

The average number of individuals in each respondents party was 1 - 4 (72%). However, there was indication that large parties (greater than four people) were numerous during canoeing excursions and a significant number of hunter/fishermen surveyed were part of larger groups.

Extremes were noted from survey respondents pertaining to the number of years they have been coming to the BCRD. Thirty-five percent (35%) indicated they have participated in recreational activities in the BCRD for less than two years while 27% indicated that they had been coming to the BCRD for more than fifteen years.

The average length of stay in the BCRD for survey respondents participating in hunting or fishing was at least one

day (89%) with seventy-seven (77%) staying overnight in or around the BCRD. Swimming, picnicking, canoeing, and sightseeing were primarily one day activities. Other activities were auxiliary to the foregoing.

Primary activity is defined as the activity in which the participant spends their greatest amount of time for planning and engaging in. Primary activity does not necessarily indicate the primary reason for participating in a specific activity.

Camping was the most popularly indicated primary activity engaged in while at the BCRD (32%). The average stay of campers was slightly over three days. Hunting (17%), canoeing (16%), hiking (14%), and fishing (12%) were also popularly indicated primary activities. These activities were significantly correlated to camping.

Sightseeing, picnicking, and swimming rounded out the recreational activities primarily engaged in at BCRD. Swimming closely correlated with canoeing and picnicking indicating a traditional spring/summer mix of activities. Sightseeing was commonly correlated with all other activities indicating that the natural beauty of the BCRD was of significant importance to the visitors. ATV/ORV use was very light with less than one percent indicating that it was a primary activity.

B. Competition

In-state and out-of-state natural resource areas were analyzed to determine their competitive angles toward the BCRD. The review included private-for-profit and public areas. Market niches were explored and correlations were noted between intensity of use and distance traveled. Important correlations were made between the distinct experience offered in the BCRD and the experiences offered by surrounding recreational areas. Several significant findings were noted.

First, the regional competition of neighboring states is minimal. Louisiana and Arkansas are states providing BCRD with a large number of visitors. The unique mix of recreational opportunities provided by the BCRD results in a natural resource based recreational experience unlike those offered in the aforementioned states. For example- Louisiana has numerous parks and natural resource areas. However, their primary concern for recreation is the establishment and development of wetlands. Wetlands are paramount to Louisiana's primarily outdoor recreational activity- hunting. BCRD does not contain specifically designated wetlands and therefore does not compete with Louisiana for hunters. In addition, many survey respondents indicated the BCRD was more accessible than similar recreation sites in Louisiana.

Arkansas, a heavily forested state with considerable USFS land, provides similar forest based recreational opportunities as the BCRD. However, these forests are located in the west and

central sections of the state and the competition offered by them is minimal.

Moreover, Arkansas has made tremendous advances in establishing their State Park system. Their parks are well managed and maintained. They have adequate funding to increase services, develop new facilities, and maintain quality. Fortunately, these parks are localized in Eastern Arkansas and provide recreation opportunities primarily for local residents. However, competition for Louisiana visitors may become keen as Arkansas provides a formidable marketing campaign targeting area states.

Louisiana spends approximately 4 million dollars a year less on their park areas than Mississippi. Arkansas spends approximately 4.5 million more than Mississippi. This may indicate a target market in Louisiana for BCRD visitors. Arkansas certainly recognizes the market in Louisiana.

Increased expenditures in natural resource recreation often correlate with increased quality. Survey indications bare out this generality as many comments were made by Louisianans concerning the nice, clean, accessible areas of the BCRD and Arkansas State parks.

Louisiana and Arkansas contain greater total acres used for natural resource based recreation than Mississippi. Although noted, this indicator does not reflect the location nor the facility development of the state Parks. Analysis indicates a greater accessibility to the BCRD for visitors (100 mile radius)

than to similar areas in surrounding states.

Alabama and Florida also provide natural resource based opportunities, however, their competitive relation to the BCRD is minimal. One hundred miles from the boundary of the BCRD was the geographic region analyzed for purposes of this study.

BCRD visitors indicated very little dissatisfaction with natural resource based recreational opportunities. Interestingly, visitors often commented on the beauty and quality of the recreational experiences in the BCRD as opposed to neighboring states. Louisianians, for example, were much more impressed with Mississippi's recreational opportunities than their own states citing specifically the scenic and beauty aspects of the BCRD. Satisfaction levels indicate that the BCRD is highly competitive within the realm of natural resource based recreation in a 100 mile radius. Generally, with a few exceptions, current programs and services are satisfying.

In-state competition for visitors to the BCRD is evident from state parks and the Pat Harrison and Tombigbee waterway districts. Specifically, the Flint Creek Water Park and the Paul Johnson State Park compete for similar visitors as those participating in recreation within the BCRD. In addition, area and Gulf Coast privately owned campgrounds provide similar services which compete with the BCRD. Although these in-state organizations compete with the BCRD by offering similar services, they differ in the types of experiences offered.

BCRD visitors primarily engage in activities associated with primitive camping, canoeing, hunting and fishing. These activities are located primarily along the Black River. Furthermore, these factors reflect the unique wants, desires and needs of the visitors of the BCRD.

Location to the primary recreation source, the Black Creek, is paramount to their satisfaction. Campers, swimmers, sightseers, and picnickers wish to be close to the river. They tend to be primitive camping oriented and they are ethically conservation/preservation oriented. Conversely, state and waterway parks focus on developed areas, RV's, and cabin camping. Their visitors are often interested in BCRD recreation opportunities but are disinterested in accommodations. There is distinct differences between BCRD recreation areas and other state areas based upon visitors ethical conviction.

State park visitors are primarily conservation/commercialization oriented ethically as opposed to the conservation/preservation ethic of BCRD visitors. Conservation/preservation visitors are more allocentric, or adventure oriented, resource aware, and territorial.

Conservation/commercialization visitors desire experiences which emphasize convenience, access, and comfort. Although they participate in activities in the BCRD, visitors not staying in the BCRD or engaged in recreational activities in the BCRD are not perceived as competitive due to their ethical background.

The BCRD would need a developed class A campground at an

accessible site in order to compete for these visitors. This is a costly venture. Moreover, this would result in lower satisfaction at all recreational sites in the BCRD as the majority ethical persuasion, conservationists/preservationists, would not view the improvement as positive.

Aquatic recreation is the most frequently indicated activity engaged in by visitors while in the BCRD. The BCRD offers a scenic river experience which, along with the natural beauty of the area, results in high use and satisfaction levels by all visitors.

Aquatic recreation at other areas focuses on impounded water. This is a distinctly different type of recreation. Survey respondents indicated a correlation between river recreation and the conservation/preservation ethic- distinctly indicative of BCRD visitors.

Combining the attraction of the Black Creek Trail and the wilderness area with aquatic recreation on the Wild and Scenic Riverway insures a unique experience unlike those offered by neighboring recreation areas. There is no competition from any areas at least 100 miles from the BCRD for this type of recreation experience.

The nearest comparable area can be found in the National Forest systems in Arkansas (Quachita and Ozark). Some minor competition may be located in southern Louisiana, however, it is negligible.

Competition is correlated to demand. Currently, there is only moderate satisfaction with the number of outdoor facilities and programs offered in the BCRD and surrounding recreation areas. Thus, there exists a need and demand for improvements. We must determine the facilities, services, and programs which need to be added- as indicated by the visitors.

C. Demand for Outdoor Recreation Opportunities

There exists a need for several additional recreational opportunities in the southern Mississippi area that correlate with current USFS recreation management goals and objectives. These opportunities would not directly compete with similar areas.

One, increased family recreation opportunities. These opportunities should include supervision (law), facility development, and restricted use. Ideally, this opportunity should be located in an easily accessible area providing opportunity for peaceful recreation. Family's traditionally enjoy aquatic related sports, picnicking, and age-oriented play facilities.

Two, hunting and fishing opportunities catering to individual sportsmen as opposed to club, commercial group, or corporate owned hunting areas. These areas should be managed for sportsmen who can not afford private hunting/fishing opportunities. Dissatisfaction exists with current

opportunities. Areas providing these specific recreation activities are not perceived as being high quality areas. Furthermore, current opportunities lack the diversity of wildlife/fisheries opportunities desired by sportsmen.

Three, special population accessibility is a concern. Current federal law mandates accessibility for all persons using public facilities. Current opportunities for special population access to wilderness/primitive areas is extremely lacking. All areas assessed were lacking in accessibility and opportunity. Special attention to facility development or improvement to allow access needs to be addressed.

Four, programs for the aging population, specifically retirees, are infrequent in wilderness areas. Because of their better physical conditions provided by today's advancements retirees are demanding activities specifically accessible and programmed for them. Most retirees indicate strong commitments to natural resource preservation. Most indicate a desire to experience natural resource based recreation in remote areas. Retirees are prone to travel in RV's. They wish for recreation opportunities within short distances of their RV homes. Consideration of development of programs for retirees is not perceived to compete with opportunities offered by area campgrounds or Flint Creek Water park.

Five, adventure bicycling is a activity which leisure planning experts predict will increase. This form of recreation, as opposed to ORV or ATV use is not as destructive to the

resource. Bike trails are easily adaptable to current trails in the BCRD.

Moreover, conflicts with other users are not noteworthy. Noise problems are non-existent. Ethical orientations are very similar. Environmental impacts on the flora and fauna are minimal. Noteworthy, this recreation activity provides concerned enthusiasts who may support LAC and partnerships. Similar geographic and recreation areas in southern Mississippi do not provide opportunities for adventure cyclist.

Six, ORV and ATV use would drastically increase with established trail areas. Private concerns have ignored the need for this recreational activity. Careful considerations must be given to the problems associated with this recreation activity. Presently, it is not compatible with BCRD users and visitors. A need for specialized ATV/ORV use areas are indicated, however, negative implications must be addressed. Extreme limits are placed on natural resources by ATV/ORV use. Also, these users conflict with any preservation ethic.

Seven, quality outdoor education and interpretation programs targeting the Wild and Scenic River and Wildlife Management area are warranted. Current opportunities are limited to commercialized areas within state (parks) and federal (Corps of Engineers) areas. Informative, cultural, historical, and nature programs are suggested. Programs offered at established recreation sites would insure the greatest participation by visitors. Obviously, these programs would receive use correlated

with the amount of activity in the BCRD and may not be applicable.

D. Competition Conclusions

According to the findings of this study the BCRD offers a unique experience. The recreational opportunities within the BCRD may be similar to areas around the district, however, the visitors served are ethically different- indicating a need for repetitive facilities and services serving this unique group. Seven areas of possible additions to present programs were discussed. In addition, the following concerns should be addressed. These concerns would further position the BCRD as a unique recreational experience.

... There is a need for greater insect control, military noise reduction, law enforcement, available water, erosion control, and quality bathroom facilities in the BCRD.

... There should be increased promotion of the area. However, promotion should target only areas currently under commercial use, i.e., canoe rental and private recreation opportunities. Promotion will result in a greater diversity of use and increased awareness of the total area.

... Joint activities with similar recreation areas should be fostered. A regional marketing group should be established to promote the entire area. Greater use will prompt increased knowledge of the wants, needs, and desires of visitors resulting

in better marketing analysis.

Although similar services and programs are offered around in the BCRD the competition is light from both public and private sector providers. Specialized recreation opportunities in the BCRD dictate the type visitor likely to use the area. These visitors possess certain traits:

1. They are conservation/preservation oriented ethically. These visitors are more satisfied with primitive camping, tent camping, limited access, no motorized vehicles, no horses, and increased management control in the wilderness area and on and along the Black Creek. They realize that controlled use is necessary and beneficial. This trait is different from other area users who were more likely to be conservation/commercialization oriented ethically. These visitors focus satisfaction on services provided by the host organization and surrounding area.

2. They are as likely to live out-of-state as they are to be local (0-25 miles). This type diversity is found only at the Flint Creek Water Park and their users. This is an important trait which should be considered when promoting the BCRD as a tourist destination point. There is a need for regional promotion, however, there will be increased conflict with local residents as the amount of use increases. Presently, use of the BCRD can be categorized as low to moderate as compared with similar areas across the nation.

3. Visitors do not perceive the BCRD as being in competition with other natural resource areas. They are happy with the activities/services offered indicating little change necessary.

Participation/Satisfaction Correlations

The following tables and scores represent the degree of interest, participation, and satisfaction with programs/services offered or likely to be of interest in the BCRD. Combined Participation/Satisfaction scores indicate services/programs which should be maintained, improved, scrutinized, or eliminated.

All scores and results are based upon data gathered during the study and are representative of the population recreating in the BCRD.

Key for Participation/Satisfaction Correlation

- | | |
|-------------------------------------|------------------------------------|
| 1. General Camping | 21. General Hiking |
| 2. Primitive Camping | 22. Trail Hiking |
| 3. Tent Camping | 23. Group Hiking |
| 4. Camper(pop-up, towed) | 24. Couples/small group Hiking |
| 5. RV camp sites | 25. Individual hike |
| 6. General Picnicking | 26. General horseback |
| 7. Pavilions/shelters | 27. Horse trails |
| 8. Corporate picnics | 28. Horse back traffic in the BCRD |
| 9. Family picnics | 29. General ATV/ORV |
| 10. General Swimming | 30. ATV/ORV trails in BCRD |
| 11. Lifeguards on duty | 31. Noise level of ATV/ORV |
| 12. General Boating | 32. ATV/ORV Traffic |
| 13. No motor Boating | 33. General Sightseeing |
| 14. Motor less than 10hp Boating | 34. Sightseeing on foot |
| 15. Motor greater than 10hp Boating | 35. Sightseeing by vehicle |
| 16. Canoeing | 36. General Hunting |
| 17. General Fishing | 37. Handicap accessible hunting |
| 18. Bank Fishing | 38. Deer Hunting |
| 19. Dock fishing | 39. Turkey Hunting |
| 20. Fishing from Boat/canoe | 40. Small game hunting |

Cross-plot of Participation/Satisfaction reveals the management directive or marketing perspectives to be incorporated for increased visitor satisfaction and participation.

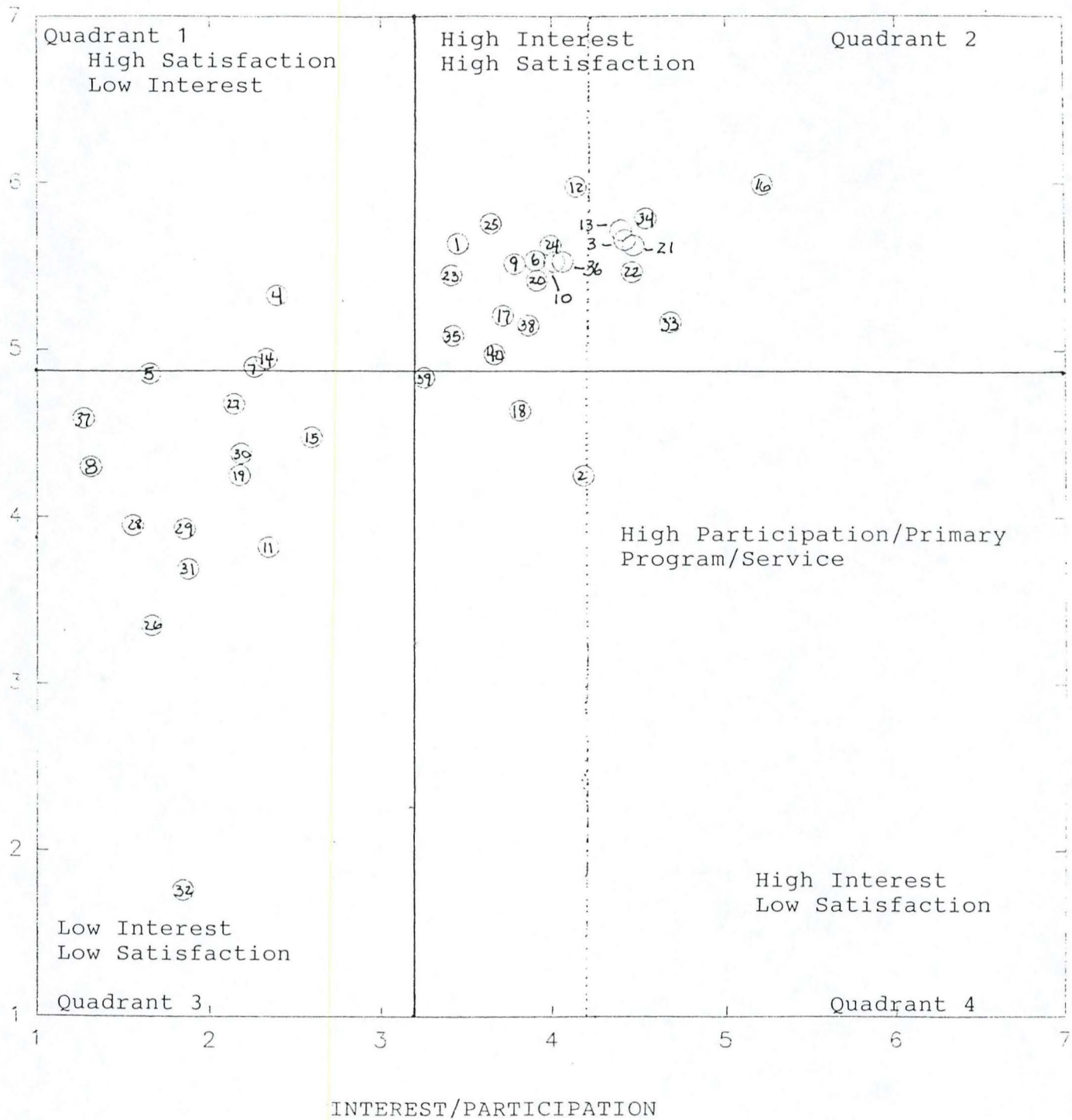
The solid line represents the separation for the four quadrants.

The broken line represents high participation services/programs which are the primary recreational activities in the BCRD.

PARTICIPATION/SATISFACTION
Correlation Grid
Black Creek Ranger District

A
C
T
U
A
L

S
A
T
I
S
F
A
C
T
I
O
N



Very High Interest - High Satisfaction Quadrant

These programs/services received very high participation and high satisfaction responses by surveyed visitors. These areas may be considered primary activity areas and should continue to receive priority USFS management and marketing efforts.

16. Canoeing is the number one activity participated in while in the BCRD. Satisfaction is very high also.

Future Directives- Continue current management practices.

Market this activity to preservation/conservation ethics- offer a pristine, non-developed experience focusing on natural resource. Careful attention to over-use or over-development.

34. Sightseeing on foot is a primary activity engaged in while in the BCRD. Satisfaction is high. Visitors sightseeing were significantly correlated with visitors using the BC trail.

Future Directives- Develop trails and areas so as to offer a natural beauty experience. Marketing efforts concentrate on natural beauty of the areas in the BCRD. Interpretive programs developed for trails, camping areas, and accesses pointing out areas of interest associated with nature and beauty.

13. No motor boating receives high participation from BCRD visitors. Their satisfaction is high. This indicator is highly correlated with canoeing, therefore, lending reliability to

foregoing directives.

Future Directives- SEE CANOEING

3. Tent Camping received the highest level of camping participation in the BCRD. Satisfaction was high.

Future Directives- Continue to offer tent camping as a primary activity. Develop areas for tent camping. Allow access for tent camping.

21. Hiking is a primary activity in the BCRD. Hiking occurred along trails and as a result of hunting (high correlation).

Future Directives- Continue to focus management of the BCRD hiking trails towards a controlled access activity. Hiking does not correlate with ATV/ORV use nor horseback riding. Marketing efforts should concentrate on hiking as a primary activity engaged in by visitors.

22. Hiking trails received high participation and visitors indicated high satisfaction with current management practices.

Future Directives- Maintain trails. Develop interpretive programs. Control access. Marketing efforts should focus upon the natural beauty and serenity of the trails. Use primarily occurs during the fall and Spring. Trail use correlated with fishing, hunting, and canoeing.

33. General Sightseeing received high participation and satisfaction. Sightseeing includes vehicle, foot, and canoeing. Additional correlation between sightseeing and picnicking and camping were noted.

Future Directives- Continue current practices. SEE SIGHTSEEING BY FOOT.

High Interest - High Participation Quadrant

This quadrant reflects programs services receiving high participation and high satisfaction from visitors. These areas may be considered as currently acceptable. Careful attention should be given to maintaining current management practices and marketing efforts should focus on these attributes.

The services/programs in this quadrant include.

- 12. Boating other than canoeing
- 24. Trail use by couples
- 25. Trail use by individuals
- 23. Trail use by groups (more than two people)
- 36. General Hunting
- 1. General Camping
- 6. General Picnicking
- 9. Family Picnicking
- 10. Swimming
- 20. Fishing from boats or canoes
- 17. General fishing
- 38. Deer Hunting
- 35. Sightseeing using vehicles- Development of scenic byways is indicated!
- 40. Small Game Hunting

Low Participation - Low Satisfaction Quadrant

This quadrant represents programs/services which received low participation and low satisfaction scores. These may be interpreted in two ways. First, these are areas which should receive no further management directives from the USFS. Second, these areas should be controlled to prevent lower participation and satisfaction for other areas. Generally, management should perceive these as barriers to participation/satisfaction of the unique ethical attitudes of BCRD visitors. Areas receiving low scores include:

- 27. Horse trails to be established
- 37. Handicap accessibility for hunters (however, federal law may require that there be limited access for handicapped hunters. Generally, this law pertains to immediate access at trail heads and parking areas. Current USFS management directives should include accessibility at all areas for the handicapped).
- 15. Boating using motors greater than 10 hp.
- 30. ATV/ORV trails to be established
- 8. Corporate picnics or exclusive areas for corporate picnics
- 19. Dock fishing opportunities on BCRD creeks or lakes
- 28. Increased Horse traffic
- 29. Increased use of ATV/ORV in the BCRD
- 11. Lifeguards on duty at access areas
- 31. Increases in noise levels of ATV/ORV in the BCRD
- 26. Any general horse use
- 32. **ABSOLUTELY NO INCREASE IN ATV/ORV TRAFFIC IN THE BCRD!!!**

Low participation - High Satisfaction Quadrant

This quadrant represents programs/services with high satisfaction and little interest. Generally, these areas are those serving special interest groups and limited use activities. Current management practices need not be altered. Satisfaction should remain high for these activities without increasing resources, expenditures, or man-hours spent in these areas.

These areas Include:

- 5. R.V. Camping opportunities
- 7. Pavilion picnicking opportunities
- 14. Boating access and opportunities for craft with motors less than 10hp
- 4. Camper (towed, pop-up, P/U opportunities

Low Satisfaction - High Participation Quadrant

This quadrant should receive the majority of USFS attention when developing marketing and management directives. These areas are currently sub-par and not satisfactory for visitors to the BCRD

These areas include:

- 39. Turkey hunting opportunities are not perceived to be adequate.

Future Directives- Must closely manage present resource.

Consider transplanting turkey for Missouri (Check with Missouri Department of Conservation). Work closely with State agency in managing this resource. Establish turkey habitat. Consciously manage specific forest areas for turkey production. Maintain some hardwood/new growth areas for turkey habitat.

18. Bank Fishing opportunities are not perceived to be adequate.

Future Directives- Develop trails to specific sandbars or lakes in the BCRD for fishing. Manage the fishery with State F,W&P Commission. Maintain pristine beauty of area. Develop areas at present creek access areas for fishing.

2. Primitive camping is very high interest and low satisfaction area. This service should receive the greatest management attention. Resources, expenditures, and man-hours are warranted to insure increased satisfaction

Future Directives- Visitors indicate that they wish for additional areas for primitive camping. They did not wish for highly developed areas. They were mainly concerned with current opportunities, basic services (bathroom, water), and accessibility. Development of any areas should proceed remembering ethical orientation (conservation/preservation). Innovative programming may include established primitive areas on sandbars, along the BC trail, and within the Wilderness area.

Degree of Participation

| | No/little Participation | Moderate Participation | Heavy Participation |
|-----------------------|----------------------------|---------------------------|------------------------|
| <u>Camping</u> | | | <u>X</u> |
| Primitive | | X | |
| Tent | | | X |
| Camper | X | | |
| RV pads | X | | |
| <u>Picnicking</u> | | | <u>X</u> |
| Pavilion/ Shelters | X | | |
| Corporate | X | | |
| Family | | X | |
| <u>Swimming</u> | | | <u>X</u> |
| Lifeguard on duty | X | | |
| <u>Boating</u> | | | <u>X</u> |
| No Motor | | X | |
| Less than 10hp | X | | |
| More than 10hp | X | | |
| Canoeing | | | X |
| <u>Fishing</u> | | | <u>X</u> |
| Bank | | X | |
| Dock | X | | |
| Boat | | X | |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | X | |
| Couples | | X | |
| Individual | | X | |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | X | | |
| Noise | | X | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | X | |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | X | |
| Turkey | X | | |
| Small game | | X | |

This indicator represents the degree to which specific programs/services receive actual participation from BCRD visitors.

Interest in Future Participation

| | No/little Participation | Moderate Participation | Heavy Participation |
|-----------------------|----------------------------|---------------------------|------------------------|
| <u>Camping</u> | | <u>X</u> | |
| Primitive | | X | |
| Tent | | | X |
| Camper | | X | |
| RV pads | X | | |
| <u>Picnicking</u> | | <u>X</u> | |
| Pavilion/ Shelters | | X | |
| Corporate | X | | |
| Family | | X | |
| <u>Swimming</u> | | X | |
| Lifeguard on duty | | N/A | |
| <u>Boating</u> | | <u>X</u> | |
| No Motor | | | X |
| Less than 10hp | | X | |
| More than 10hp | | X | |
| Canoeing | | | X |
| <u>Fishing</u> | | X | |
| Bank | | X | |
| Dock | X | | |
| Boat | | X | |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | X | |
| Couples | | X | |
| Individual | | X | |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | | X | |
| Noise | | N/A | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | | X |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | X | |
| Turkey | | X | |
| Small game | | X | |

This indicator estimates the level of interest which visitors show in participating in each activity/service in future visits to the BCRD. This indicator is useful in predicting future management directions.

Level of Satisfaction

| | No/little Satisfaction | Moderate Satisfaction | Heavy Satisfaction |
|---------------------------|---------------------------|--------------------------|-----------------------|
| <u>Camping</u> | | | <u>X</u> |
| Primitive | | X | |
| Tent | | | X |
| Camper | | | X |
| RV pads | X | | |
| <u>Picnicking</u> | | | <u>X</u> |
| Pavilion/ Shelters | X | | |
| Corporate | X | | |
| Family | | | X |
| <u>Swimming</u> | | | X |
| Lifeguard on duty | X | | |
| <u>Boating</u> | | | <u>X</u> |
| No Motor | | | X |
| Less than 10hp | | X | |
| More than 10hp | X | | |
| Canoeing | | | X |
| <u>Fishing</u> | | X | |
| Bank | X | | |
| Dock | X | | |
| Boat | | | X |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | | X |
| Couples | | | X |
| Individual | | | X |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | X | | |
| Noise | X | | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | | X |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | | X |
| Turkey | X | | |
| Small game | | X | |

This indicator shows the level of satisfaction visitors had while participating in each activity/service in the BCRD.

Level of Satisfaction for Management Directions

| | No/little Satisfaction | Moderate Satisfaction | Heavy Satisfaction |
|----------------------------------|---------------------------|--------------------------|-----------------------|
| Roadways | | X | |
| Bathrooms | X | | |
| Area Tidiness | | | X |
| Landscaping | | | X |
| Erosion Control | X | | |
| Insect Control | X | | |
| Utilities | X | | |
| available water | X | | |
| electricity | | X | |
| Undergrowth | | | X |
| Accessibility | | | X |
| Vandalism | X | | |
| Law Enforcement | X | | |
| Area Maps and Info | | | X |
| Directional Signage | | X | |
| Solitude | | | X |
| camper noise | | X | |
| boat noise | | X | |
| military noise | X | | |
| Wildlife management | | | X |
| Fisheries Management | X | | |
| Trail Management | | | X |
| <u>Overall experience</u> | | | <u>X</u> |

This indicator represents the level of satisfaction visitors displayed while recreating in the BCRD. Areas receiving little or moderate satisfaction represent programs/services which should be emphasized when developing future management directions. Increasing satisfaction is directly related to establishing quality program/services.

Appendix

LAC Evaluation of the Black Creek
National Forest Ranger District of Mississippi

Conducted by:

Dr. Kim R. Beason, Assistant Professor
University of Mississippi

Fall-Spring-Summer, 1991-1992

Submitted:

September 1, 1992

Fact Sheet

The following figures serve as a quick facts sheet for interpretation of data collected. The Black Creek Ranger District (BCRD) was the general area studied with particular attention given to the Wilderness areas and the Black Creek. These figures cover questions to be answered within the guidelines of the CCS agreement between the USFS and the University of Mississippi including LAC guidelines. All figures are based upon data collected from November 1991 through August 1992.

Many of the following figures are general in nature and can be interpreted as pertaining to all sites. Visitors had difficulty in determining the difference between wilderness areas and non-wilderness areas indicating a need for better education at trailheads as to the location of the wilderness areas.

Qualitative comments

The following are a selection of direct quotes from visitors coming to the BCRD or responding to survey questionnaires. Selections were made based upon recurring themes. These may be interpreted as important for USFS management directions.

"I am totally against any off-road vehicle use in the National Forest" noted many times!

"Personally, I think Mississippi has the best Wildlife management, fishing, and recreation in the U.S. I have been from Washington to Florida and I have never been or seen any place better than those located in southern Mississippi"

"Way too much Camp Shelby noise" often mentioned

"too much hunting from designated hiking trails"

"too much erosion around area, especially at Black Creek Retreat".

"There are non-designated roads which need to be eliminated from use".

"My biggest complaint at the canoe rental is military noise and motorboats in the wilderness area".

"I have been coming here for ten years and I still do not know where the wilderness area begins or ends".

"The only problem I have had requiring law was at Moody's and Janice landing with local drunks during holidays, however, the problems are usually controlled by locals before the law gets here".

"I cant say the noise really bothers me but one day while my wife and I were skinny dipping a helicopter flew over and then they were as thick as flies the rest of the day!".

"I hope you keep the river and hiking trails separated. This way the people can feel safe of someone coming up behind them on a sand bar".

"Please do not develop many night lights as the ruin the night sky",

Factor: Trail/trails conditions Black Creek & Leaf Hiking trails in Wild areas, Black Creek W & S river, Social Trails.

Indicator: Average number of visitors/day for weekdays and weekends by season of year. (These figures represent primarily the Black Creek Trail).

A. Average number for weekdays (Mon-Fri)

- Winter less than 1 per 12 hours
- Spring 1-2 per 12 hours
- Summer 1 per 12 hours
- Fall 2-3 per 12 hours

B. Average number for weekends (Sat-Sun)

- Winter 2-3 per 12 hours
- Spring 3-4 per 12 hours
- Summer 2-3 per 12 hours
- Fall 3-5 per 12 hours

C. Average participation rate per season/seasons

- Summer only 5.0%
- Fall only 4.0%
- Winter only 2.0%
- Spring only 2.0%
- Summer/Fall 29.0%
- Summer/Winter 7.0%
- Winter/Spring 17.0%
- Spring/Summer 32.0%
- Spring/Fall 1.0%
- Fall/Winter 2.0%

Indicator: Average length of stay.

| | |
|----------------------|-------|
| A. under three hours | 6.7% |
| 3 - 6 hours | 2.2% |
| 7 - 12 hours | 1.5% |
| 13 - 24 hours | .7% |
| 1 day | 12.0% |
| 2 - 4 days | 53.7% |
| 5 or more days | 23.1% |

Average Number of Years coming to BCRD

| | |
|------------------|-------|
| A. first time | 10.0% |
| under a year | 5.0% |
| 1 - 3 years | 19.0% |
| 4 - 6 years | 17.0% |
| 7 - 10 years | 12.0% |
| 10 or more years | 37.0% |

Indicator: Number, location, and description of Social Trails (i.e., trails not marked nor mapped).

A. Social trails are numerous that enter into the various BCRD areas. Notable and obvious social trails are marked on the enclosed map. Many social trails are seasonal and many have their origins from the Black Creek W & S River.

B. Number

11 observed trails along the Black Creek Trail. Three of these were prominent and used with regularity. These trails are primarily joining public access roads to the trail/wilderness.

C. Location

SEE MAP

D. Description

Most trails are merely short-cuts from various public use roadways to the River.

Indicator: Number, location and description of trails used by ORV's.

None were observed during the survey. No encounters were noted between visitors and ORV's either on established trails or using other trails.

Indicator: Average tread Width

No tread-marks were noted except on parts of trail where fire-lines had been established. Width sizes were for full-size vehicle (truck).

Indicator: Root Exposure, tread condition, amount of sloughing tread.

A. Root Exposure

Root exposure was primarily caused by normal/seasonal rains on and around installed USFS foot-bridges. No exposure was noted from vehicular use. Possible exposure at all recreation sites, from tread wear is more likely a combination of normal rains and sporadic off-road use.

A. Numbers

There is an average of 2 footbridges/boardwalks per mile of established trail.

B. Conditions

the conditions of the footbridges/boardwalks are poor. Many of these are unstable, eroded, loose planking, and weathered. Most are more hazardous than the immediate area and hikers choose to walk around them. Extensive renovation is necessary. Comments were noted from visitors as to their general state of disrepair. Vandalism was extremely slight and most damage done by natural elements. Liability and satisfaction concerns are major items to be addressed.

C. Needs

All footbridges and boardwalks need monthly inspection to insure their safety and maintenance. Many of these should be installed with handrailings so as to insure safety. Some should be replaced with terraced trail to help control erosion. This should be accomplished as soon as possible.

Indicator: Trail markers

A. Numbers/Conditions

Trail markers were generally acceptable. Little dissatisfaction was noted by visitors. During the survey only one missed marker was noted. Trail undergrowth control will assist presently established markers.

B. Needs

All markers should be routinely re-marked to insure their easy visibility. All markers should be routinely checked to insure that there has been no tampering and/or destruction by man or natural caused incident.

Indicator: Cleanliness/litter amount, total number of sightings per year.

There was extremely few pieces of litter noted. Less than one piece per mile of trail. However, at areas where there was flooding from the River there was numerous river debris including litter. Litter was more prevalent around the trail as it parallels the river. The most likely season for litter is the spring and summer months.

Factor: Campsites, campsite conditions, picnic sites

PRIMITIVE CAMPSITES

Indicator: Number of Sites, Locations, size

A. 13 primitive campsites were noted along the Black Creek Trail. These sites were generally near the river. SEE MAP FOR DETAILS. There are probably several additional campsites that are seasonal which were destroyed by earlier rains.

B. The major point being- these campsites were located near the river. No sites were observed off the trail, however, strong evidence exists to suggest that during the fall hunting season there are several camps erected for hunting purposes. This information was provided by hunters interviewed in November 1991. Campsites along the Black River banks were difficult to

undoubtedly there is moderate camping pressure during the spring/summer season.

C. Sizes of the primitive campsites suggest small groups. However, there were two large camps noted. The first was approximately 2 miles south of the Moody access on the west side of the Black River. The second camp was located approximately two miles north of Janice Landing. Possibly, this site was composed of several small camps combined. All campsites were old and probably very seasonally used.

Indicator: Condition/classification rating

A. All sites were primitive with only simple fire-rings and small stumps used for seating.

Indicator: %Soil exposure, %vegetative cover

A. Sites were primarily located under cover of forest. Soil exposure due to activity was minimal.

Indicator: Tree Damage, root exposure

A. There was some damage to trees at various primitive sites. Nails and staples were noted in several trees. Permanent, life-threatening damage to trees was not evident. Root exposure was not an evident problem around campsites.

Indicator: #tree stumps, # fire rings, litter/trash

A. Several tree stumps were noted, however, these appeared to have been removed at a past point. There were no recent stumps noted. Fire rings were erected at most sites indicating concern for fire safety. The rings were formed from earth, stumps, or small logs. Several sites had no rings. No trash was observed around those sites surveyed, however, river debris was in close proximity and some of this litter could have washed from the sites. One buried trash site was observed near a primitive site north of Janice landing. The trash had washed up and was barely perceptible.

Indicator: # of trails leading from campsites

A. There were several trails noted leading from primitive campsites. These are noted on the map. Several were investigated to determine points of origin and were found to either double back on themselves or lead to old logging/fire roads. SEE MAP.

Indicator: human waste

A. No human waste was noted, however, obvious reasons dictate that when campsites are utilized there must be waste in immediate vicinity.

Indicator: Determine the number of people entering each trail head, each access point to creek, and non-designated points of entry.

A. Trail head entry (per day)

| | Spring | Summer | Fall | Win |
|--------------------------|--------|--------|------|-----|
| 1. Fairley Bridge | | | | |
| Weekdays- | 1 | 1-3 | 1-2 | 1 |
| Weekends- | 2-3 | 1 | 2-3 | 1 |
| 2. Janice Landing | | | | |
| Weekdays | 1-3 | 1-2 | 2-4 | 1-2 |
| Weekends- | 2-3 | 1-3 | 3-6 | 1-3 |
| 3. CCC camp (projected) | | | | |
| Weekdays | 1-3 | 1 | 2-5 | 1-2 |
| Weekdays- | 2-3 | 1-2 | 2-5 | 1-2 |
| 4. Big Creek (projected) | | | | |
| Weekdays- | 1-3 | 1-2 | 2-5 | 1-2 |
| Weekends- | 2-4 | 1-2 | 2-5 | 1-2 |

B. Non-designated entry and trail use.

Although entry was evident at numerous areas it was difficult to determine if the entry was for trail use or river access. Strong evidence supports the access to the trail was for river access..

Indicator: Determination of illegal use/access

A. Very little indication exists for illegal use i.e., ORV/ATV, horse, bike, etc. Survey respondents encountered very few illegal activities on the trail. Numerous reports of abuses were given for access areas.

Factor: Other streams besides Black Creek, i.e., Beaver Dam, Black Branch, Stillhouse.

Indicator: estimation of amount of use, type of use, trash

A. There exists some use of tributaries entering the Black Creek. The most observed use being early season fishing by wading or bank fishing. Difficult to assess without established entry points or trails. There was little litter observed except in river wash outs and flood areas. Here, typical river debris and some trash was noted.

Factor: SOCIAL- Use on trails, on Black Creek, at Trailheads at Landings/rec Areas

Indicator: Amount of use per 100 visitors- All areas combined.

| | Spring | Summer | Fall | Winter |
|-------------|--------|--------|------|--------|
| Camping | 26 | 35 | 32 | 39 |
| Picnic | 3 | 3 | 1 | 5 |
| Swimming | 1 | 13 | | |
| Canoeing | 9 | 10 | 31 | 11 |
| Fishing | 7 | 35 | 5 | 16 |
| Hiking | 7 | 9 | 19 | 14 |
| ATV/ORV | 1 | | | |
| Sightseeing | 6 | 3 | | |
| Hunting | 33 | 3 | 10 | 16 |

A. The majority of people using the BCRD resided within 100 miles of the area. The following represents the breakdown of visitors according to distance traveled per 100 visitors.

| | |
|---------|-----|
| 0-2 | 16 |
| 21-50 | 42. |
| 50-100 | 38. |
| 101-150 | 1 |
| 151+ | 3. |

B. Out-of-state visitors accounted for 32.1% of visitors to the BCRD

Indicator: Degree of satisfaction/participation

A. The following activities were assessed to determine rates of satisfaction, interest, and participation in the BCRD.

The following figures indicate overall attitudes of the visitors to the BCRD.

How to interpret participation/satisfaction scores

These scores may be interpreted as follows.

Participation (degree) - the actual participation rates as compared to all other listed recreation activities visitors may be engaged in while in the BCRD.

Participation (interest) - the interest visitors show in participating in activities during future visits to the BCRD. High scores indicate activities with prospects for development by USFS for visitors.

Satisfaction - indicates visitors levels of satisfaction with current opportunities offered, management areas, or facilities/services offered.

Combining participation (degree) with satisfaction scores will give an excellent indication for future recreation area management goals.

High interest and low satisfaction indicate a need to add or modify existing programs/areas.

High interest and high satisfaction indicate good quality programs/services which need little attention.

Low interest and satisfaction indicate programs/services which should be discontinued or given little consideration in management direction.

High satisfaction and low interest indicate special interest groups/individuals. Care should be given when determining management directions for this area as it is easy to over-program for small numbers of individuals.

Overall satisfaction with the BCRD was high among individuals wishing for an experience in natural resource based recreation. Canoeing was the most engaged in activity receiving the highest interest, participation, and satisfaction scores. The Black Creek Trail was also highly evaluated by participants.

Degree of Participation

| | No/little Interest | Moderate Interest | Heavy Interest |
|-----------------------|-----------------------|----------------------|-------------------|
| <u>Camping</u> | | | <u>X</u> |
| Primitive | | | X |
| Tent | | | X |
| Camper | | | X |
| RV pads | | | X |
| <u>Picnicking</u> | | | <u>X</u> |
| Pavilion/ Shelters | X | | |
| Corporate | X | | |
| Family | | X | |
| <u>Swimming</u> | | | <u>X</u> |
| Lifeguard on duty | X | | |
| <u>Boating</u> | | | <u>X</u> |
| No Motor | | X | |
| Less than 10hp | X | | |
| More than 10hp | X | | |
| Canoeing | | | X |
| <u>Fishing</u> | | | <u>X</u> |
| Bank | | X | |
| Dock | X | | |
| Boat | | X | |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | X | |
| Couples | | X | |
| Individual | | X | |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | X | | |
| Noise | | X | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | X | |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | X | |
| Turkey | X | | |
| Small game | | X | |

This indicator represents the degree to which specific programs/services receive use by BCRD visitors.

Interest in Future Participation

| | No/little Participation | Moderate Participation | Heavy Participation |
|-----------------------|----------------------------|---------------------------|------------------------|
| <u>Camping</u> | | <u>X</u> | |
| Primitive | | X | |
| Tent | | | X |
| Camper | | X | |
| RV pads | X | | |
| <u>Picnicking</u> | | <u>X</u> | |
| Pavilion/ Shelters | | X | |
| Corporate | X | | |
| Family | | X | |
| <u>Swimming</u> | | X | |
| Lifeguard on duty | | N/A | |
| <u>Boating</u> | | <u>X</u> | |
| No Motor | | | X |
| Less than 10hp | | X | |
| More than 10hp | | X | |
| Canoeing | | | X |
| <u>Fishing</u> | | X | |
| Bank | | X | |
| Dock | X | | |
| Boat | | X | |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | X | |
| Couples | | X | |
| Individual | | X | |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | | X | |
| Noise | | N/A | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | | X |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | X | |
| Turkey | | X | |
| Small game | | X | |

This indicator shows the level of interest which visitors showed in participating in services/programs in future visits to the BCRD.

Level of Satisfaction

| | No/little Satisfaction | Moderate Satisfaction | Heavy Satisfaction |
|-----------------------|---------------------------|--------------------------|-----------------------|
| <u>Camping</u> | | | <u>X</u> |
| Primitive | | X | |
| Tent | | | X |
| Camper | | | X |
| RV pads | X | | |
| <u>Picnicking</u> | | | <u>X</u> |
| Pavilion/ Shelters | X | | |
| Corporate | X | | |
| Family | | | X |
| <u>Swimming</u> | | | X |
| Lifeguard on duty | X | | |
| <u>Boating</u> | | | <u>X</u> |
| No Motor | | | X |
| Less than 10hp | | X | |
| More than 10hp | X | | |
| Canoeing | | | X |
| <u>Fishing</u> | | X | |
| Bank | X | | |
| Dock | X | | |
| Boat | | | X |
| <u>Hiking</u> | | | <u>X</u> |
| Trails | | | X |
| Group | | | X |
| Couples | | | X |
| Individual | | | X |
| <u>Horses</u> | <u>X</u> | | |
| trails | X | | |
| traffic | X | | |
| <u>ATV/ATM</u> | <u>X</u> | | |
| Trails | X | | |
| Noise | X | | |
| Traffic | X | | |
| <u>Sightseeing</u> | | | <u>X</u> |
| On foot | | | X |
| by Vehicle | | | X |
| <u>Hunting</u> | | X | |
| Handicap | X | | |
| Deer | | | X |
| Turkey | X | | |
| Small game | | X | |

This indicator shows the level of satisfaction visitors had while participating in each service/program.

Level of Satisfaction for Management Directions

| | No/little Satisfaction | Moderate Satisfaction | Heavy Satisfaction |
|----------------------------------|---------------------------|--------------------------|-----------------------|
| Roadways | | X | |
| Bathrooms | X | | |
| Area Tidiness | | | X |
| Landscaping | | | X |
| Erosion Control | X | | |
| Insect Control | X | | |
| Utilities | X | | |
| available water | X | | |
| electricity | | X | |
| Undergrowth | | | X |
| Accessibility | | | X |
| Vandalism | X | | |
| Law Enforcement | X | | |
| Area Maps and Info | | | X |
| Directional Signage | | X | |
| Solitude | | | X |
| camper noise | | X | |
| boat noise | | X | |
| military noise | X | | |
| Wildlife management | | | X |
| Fisheries Management | X | | |
| Trail Management | | | X |
| <u>Overall experience</u> | | | <u>X</u> |

This indicator represents the level of satisfaction visitors displayed while recreating in the BCRD. Areas receiving little or moderate satisfaction are areas which should be emphasized when developing future management directions. Increasing satisfaction is directly related to establishing quality program/services.

Indicator: why do they come to the BCRD:

A. The top five reasons mentioned by visitors were:

1. Natural Beauty
2. Camping
3. Canoeing
4. Hunting/fishing
5. Accessibility

Factor Solitude while traveling/visiting

Indicator: Average number of parties met while traveling trails and creek

A. While there were few remarks by visitors regarding solitude from general interest/satisfaction indicators there was not a problem with interactions. The following are average numbers met during participation at the BCRD.

| | Weekends | Weekdays |
|----------|-------------|--------------|
| Hiking | 2-4 | fewer than 1 |
| Canoeing | 8-15 canoes | 3-5 canoes |

Factor: Campsite solitude

Indicator: Average number parties camped within site

A. There were two separate categories evaluated- within established sites and on the trail/creek. The results are as follows:

1. Within sites average- 3 parties per site per day in the spring/summer 4 parties in the fall and less than 2 in the winter
2. Outside sites- there were very few indications of campers encountering others on the trails or on the creek banks- less than 1.

Factor: Conflicts regarding party size

Indicator: party sizes.

A. There was little conflict noted between visitors with the exception of ATV/ORV users. This form of recreation was determined to be extremely conflictive with other activities.

Indicator: Attitudes

A. SEE FOREGOING INTEREST/SATISFACTION INDICATORS

Factor: Noise

indicator: amount, type, frequency, duration, loudness, impacts, attitudes

A. The most common types of noises mentioned were related to military activities, particularly airplanes. Although not extremely annoying the noise was noticeable and several individuals indicated that it did distract from their experiences at the BCRD. Most noise was noted during National Guard maneuvers on the weekends and training camps. Various aircraft were the loudest form of noise. Also mentioned were ATV/ORV noises from users on roadways/trails and logging truck noise on roadways. Logging truck noise was particularly annoying to trail users within ear

Factor: Managerial role

Indicator: Education level, awareness level, attitude, wants/needs desires, services, information, rules and regulations, law enforcement, safety.
A. SEE INTEREST/PARTICIPATION/SATISFACTION factors

The management of the BCRD was perceived as being adequate. Certain areas should be improved including:

1. Bathrooms- modern facilities were indicated as important to total satisfaction while recreating at the BCRD. Suggestion- improvement of maintenance on existing bathrooms and installation of adequate bathrooms at all river accesses.

2. Erosion control- erosion was a concern of a large number of respondents. Particularly around recreation areas. Suggestion- landscape recreation areas with attention given to erosion control. Prevent any access by ATV/ORV in areas prone to erosion, i.e., harvested timber areas.

3. Insect Control- most individuals indicated a distaste for Mississippi's entomological nightmares. Solution- maintenance of screens at all present facilities. Mosquito spraying in Spring of the year.

4. Utilities- considerable interest in potable water at all accesses. Extreme pleasure in addition of water at Moody Landing. Solution- add water at all areas as feasible

5. Vandalism- visitors were not satisfied with areas vandalized. Vandalism of all areas was noted during this study. Most appeared to be wanton acts. Solution- increased law enforcement, installation of Vandal resistant signs and facilities. Establish neighborhood watch programs and form partnerships, i.e., "Friends of Janice Landing".

6. Law Enforcement- similar comments to those made concerning vandalism. Often commented on the lack of noticeable law enforcement and regular patrols. Solution- establish neighborhood watches. Increase patrols.

7. Military noise- visitors were cognizant of the military noise and were not satisfied with it. However, they realize that Camp Shelby is close by and that the noise was not directly associated with the wilderness areas. Solution- close work with military to attempt to provide quiet hours or special noise free weekends which USFS could promote to public.

8. Fisheries management- visitors were not satisfied with the fishing opportunities on the Black Creek. Size and numbers were mentioned. Solution- work closely with Mississippi Parks, Fisheries, and Wildlife to establish a quality fishery. May need limited access areas, seasons, length limits, and special limits and seasons.

Please rank the following definitions based on your personal ethical concerns for the management of the United States of America's natural resources:

First_____ Second_____ Third_____

1. We should carefully manage and protect our resources from exploitation, destruction or neglect, however, careful attention must be given to the prudent use of the resources realizing harvest is necessary for quality experiences.

2. We should keep safe from injury, harm or destruction our natural resources. Any use of our natural resources must involve extreme limitations so as to insure their existence for future generations. We should require the restoration of our natural resources to their original, pristine, unaffected by man, state.

3. We should thoughtfully consider the potential of our natural resources. Harvest of the resources if necessary for the well-being of our economy. Management of our natural resources should be approached from a business perspective, remembering that success if related to a renewable resource.

Please place one X for each question below.

1. Income level

_____0-6000

_____6001-12000

_____12001-18000

_____18001-24000

_____24001-30000

_____30001-50000

_____50000+

2. Age

_____under 16

_____17-21

_____22-30

_____31-40

_____41-50

_____51-60

_____61+

3. How long have you been enjoying the Black Creek Area?

_____This is my first visit

_____under a year

_____1-3 years

_____7-10 years

_____4-6 years

_____10+ years

4. What time of year are you most likely to use the area?

_____Summer only

_____Fall only

_____Winter only

_____Spring only

_____Summer/Fall

_____Summer/Winter

_____Winter/Spring

_____Spring/Summer

Please Circle one number that best indicates the degree you participate in the following areas at the Black Creek/Leaf Wilderness areas and the Black Creek Wild and Scenic River when recreating in the area.

| | LITTLE-----EXTENSIVE | | | | | | | | N/A |
|-------------|----------------------|---|---|---|-----|---|---|---|-----|
| | USE | | | | USE | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Camping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Primitive | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Tent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Camper | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| RV pads | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Picnicking | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Pavilion/ | | | | | | | | | |
| Shelters | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Corporate | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Family | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Swimming | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Lifeguard | | | | | | | | | |
| on duty | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Boating | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| No Motor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Less than | | | | | | | | | |
| 10hp | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| More than | | | | | | | | | |
| 10hp | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Canoeing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Fishing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Bank | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Dock | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Boat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Hiking | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Trails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Group | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Couples | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Individual | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Horses | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| trails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| traffic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| ATV/ATM | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Trails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Noise | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Traffic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Sightseeing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| On foot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| By Vehicle | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Hunting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Handicap | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Deer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Turkey | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Small game | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |

Please circle the number which best indicates your level of satisfaction experienced at the Black Creek Wilderness/Scenic River area

| | NOT-----VERY | | | | | | | N/A |
|-------------|--------------|---|---|-----------|---|---|---|-----|
| | SATISFIED | | | SATISFIED | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Camping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Primitive | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| tent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Camper | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| RV pads | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Picnicking | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Pavilion/ | | | | | | | | |
| Shelters | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Corporate | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Family | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Swimming | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| lifeguard | | | | | | | | |
| on duty | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Boating | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| no motor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| less than | | | | | | | | |
| 10 hp | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| more than | | | | | | | | |
| 10 hp | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| canoeing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Fishing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| bank | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| rock | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| boat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| hiking | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| rails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| group | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| couples | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| individual | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| horses | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| rails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| traffic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| TV/ATM | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| rails | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| noise | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| traffic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| lightseeing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| on foot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| by vehicle | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Hunting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| handicap | | | | | | | | |
| accessible | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| deer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| turkey | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| small Game | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

Please circle the number which best indicates your overall satisfaction while visiting the Black Creek District for the following categories.

| | NOT-----VERY | | | | | | | N/A |
|---------------|--------------|---|---|-----------|---|---|---|-----|
| | SATISFIED | | | SATISFIED | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Roadways | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Bathrooms | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Area Tidiness | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Landscaping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Erosion | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Insect | | | | | | | | |
| Control | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Utilities | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| available | | | | | | | | |
| water | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| electricity | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Undergrowth | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Accessibility | 2 | 3 | 4 | 5 | 6 | 7 | 9 | |
| Vandalism | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Law | | | | | | | | |
| Enforcement | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Area maps | | | | | | | | |
| and info | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Directional | | | | | | | | |
| signs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Solitude | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| camper | | | | | | | | |
| noise | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| boat noise | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| military | | | | | | | | |
| noise | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Wildlife | | | | | | | | |
| management | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Fisheries | | | | | | | | |
| management | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Trail | | | | | | | | |
| management | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

Please indicate your overall experience while visiting the recreational areas in the Black Creek District.

| BAD | Adequate | | | | | Excellent | |
|-----|----------|---|---|---|---|-----------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

If you have additional comments please send them back with this questionnaire.

Thank you for your time and efforts!!
Name _____

Address _____

Addendum 1
Total Use for Wild and Scenic River, Trails and
Total BCRD

Total Participation for Black Creek Wild And Scenic Riverway and
Wilderness Area

1. Black Creek Trail per year (Primary Use)..... 435
Week day Use
2. Black Creek Trail per year (Primary Use)..... 720
Weekend Use

Visitors utilizing the BC Trail for purposes other than hiking or
hunting were accounted for in Creek use or General use below
Total Year Use 1155

3. Black Creek Use per year (Primary Use)..... 8500
Total Use
4. Black Creek Ranger District Use.....12000
Other than Wilderness and River
5. Wilderness Use..... 4500
Hunters, General Use
6. Leaf Creek.....
Insufficient Data

BCRD Total Use 26155

This figure is based upon maximum estimated use per season.
There is an error coefficient of (+/-) 4 percentage points=
27201 or 25109

Visitor entering from points of access other than designated by
USFS were difficult to determine. Total visitation to the BCRD
may be approximately 20%-40% greater due to this access.

Sightseeing visitation by on-road vehicle was also difficult to
assess within the scope of this study.

Estimated visitor contacts with the BCRD other than noted in
study

10500

Grand Total Estimated Visitation
36655

Addendum 1
Total Use for Wild and Scenic River, Trails and
Total BCRD

Total Participation for Black Creek Wild And Scenic Riverway and
Wilderness Area

1. Black Creek Trail per year (Primary Use)..... 435
Week day Use

2. Black Creek Trail per year (Primary Use)..... 720
Weekend Use

Visitors utilizing the BC Trail for purposes other than hiking or
hunting were accounted for in Creek use or General use below
Total Year Use 1155

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4. Black Creek Ranger District Use.....12000
Other than Wilderness and River

5. Wilderness Use..... 4500
Hunters, General Use

6. Leaf Creek.....
Insufficient Data

BCRD Total Use 26155

This figure is based upon maximum estimated use per season.
There is an error coefficient of (+/-) 4 percentage points=
27201 or 25109

Visitor entering from points of access other than designated by
USFS were difficult to determine. Total visitation to the BCRD
may be approximately 20%-40% greater due to this access.

Sightseeing visitation by on-road vehicle was also difficult to
assess within the scope of this study.

Estimated visitor contacts with the BCRD other than noted in
study

10500

Grand Total Estimated Visitation
36655